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## (54) PHOTOGRAPHIC PROCESSING AGENT COMPOSITION KIT AND PROCESSING METHOD USING SAME

## (57)Abstract:

PROBLEM TO BE SOLVED: To obtain a concd. liq. processing agent compsn. kit for a color photographic sensitive material contg. a developer compsn. and a bleaching agent- contg. compsn. which are both excellent in aging stability, work efficiency in a processing laboratory and possibility of recycling vessels. SOLUTION: A color developer compsn. comprising a single liq. agent having a specific gravity of 1.15-1.30 and contg. all the constituent components of a development replenisher soln. is prepd. A bleaching agent- contg. compsn. comprising a single liq. agent having a specific gravity of 1.15-1.30 and 0.5-3 mol/l concn. of the bleaching agent and contg. all the constituent components of a bleaching replenisher soln. is also prepd. The color developer compsn. and the bleaching agent- contg. compsn. are separately filled into vessels formed from a single material common to the vessels and having the same shape and the same volume and then the vessels are incorporated into a single cartridge to obtain the objective processing agent compsn. kit for a silver halide color photographic sensitive material.

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## CLAIMS

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[Claim(s)]

[Claim 1] Specific gravity is 1.15–1.30, and the color development agent constituent consists of single liquids and solutions containing all the constituents of a development replenisher. (b) A (b) bleaching agent content constituent In 1.15–1.30, specific gravity is [ bleaching agent concentration ] 0.5–3 mols/l. And it consists of single liquids and solutions containing all the constituents of a bleaching replenisher. It has the volume as the same configuration with same above-mentioned color development agent constituent and above-mentioned bleaching agent content constituent. (Ha) and the container made from the common and single component is filled up, respectively — having — \*\*\* — (d) — the processing agent constituent kit for photographs characterized by incorporating those containers in a single cartridge.

[Claim 2] The processing agent constituent kit according to claim 1 characterized by the oxygen transmission rate of the container for processing agent constituent restoration being the container of 4–13mlper 1l. of processing agent constituents/(24hr.atm.l) (per unit volume of contents liquid [ in / at the temperature C of 25 degrees / 50% of relative humidity ]).

[Claim 3] The processing agent constituent kit according to claim 1 or 2 characterized by coming to fill up polyolefin resin the container made as a single component.

[Claim 4] The processing agent constituent kit according to claim 1 to 3 characterized by incorporating all the processing agent constituents with which all the processing agent constituents that constitute a kit have the same volume as the same configuration, and the container made from the common and single component is filled up with them, respectively, and the container was filled up further in a single cartridge.

[Claim 5] The processing agent constituent kit according to claim 1 to 4 characterized by the thing of the compound with which the color development agent constituent which constitutes a kit is chosen from each group of the alkanol expressed with the alkanolamine expressed with the following general formula [A], and a general formula [S] included for one at least.

$[H(R'O) m R] n NH (3-n) [A]$

(0 or 1, and n of m are the integers of 1–3 among a formula [A], and, as for the hydroxy permutation alkylene group of 2 to 4, and R', a carbon number is [ the carbon number of R ] the alkylene group or hydroxy permutation alkylene group of 1–4.) However, when m is 0, if n is 2 if the carbon number of R is 2, and the carbon numbers of R are 3–4, n is 1, 2, or 3. Moreover, when m is 1, it is not based on the class of R but n is 1, 2, or 3.

$R11-O-(X1) m-(X2) n-R12 [S]$

(R11 and R12 express a hydrogen atom or a low-grade alkyl group respectively among a formula [S], X1 and X2 express an alkyleneoxy radical or a hydroxy alkyleneoxy radical respectively, and m and n express the integer of 0, or 1–100 respectively.) However, it is  $m+n \leq 100$ .

[Claim 6] The development approach of the silver halide color photography sensitive material characterized by carrying out color development processing of the exposed silver halide color photography sensitive material, equipping with a development agent constituent kit according to claim 1 to 5 the auto-processor which has an automatic soaping-machine style, and supplying it automatically.

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## DETAILED DESCRIPTION

## [Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] Specifically, this invention relates to the development approach by the auto-processor using the processing agent constituent and \*\*\*\*\* which aimed at facilitation of the development activity for [ in a color processing laboratory ] color photography sensitive material, and amelioration in both sides of mitigation of the environmental load in connection with a processing agent container about the development approach using the processing agent constituent and it which are used for processing of silver halide color photography sensitive material.

[0002]

[Description of the Prior Art] Generally processing of silver halide color photography sensitive material consists of image stabilization processes, such as a color development process, a desilvering process, and rinsing, as a basic process. At a color development process, image-like coloring matter and image silver generate by the reaction of a color development chief remedy and silver salt. At a desilvering process, the image silver produced at the color development process oxidizes to silver salt with the bleaching agent which has the oxidation (bleaching), and is removed from a sensitization layer by the fixing agent which forms fusibility silver with a still more nearly intact silver halide. Or the oxidation and its removal to silver salt are performed by the bleach fix bath by the single step. An image stabilization process is a process at which accommodation of the ambient atmosphere of an image layer is made, in order to secure the stability over the long period of time of the generated image, and either rinsing or rinsing, an image stability bath or the stable bath replaced with rinsing is performed. Each down stream processing is performed using the water solution (it is called processing liquid) containing one or more kinds of processing chemicals, if rinsing is removed. Since each processing liquid is low concentration comparatively, generally it is unsuitable from a viewpoint of the financial side, a storage-space side, or a working plane for a processing chemical manufacturer to manufacture the processing liquid in the condition that it can be used as it is, to convey it to a processing laboratory, and to keep it.

[0003] Conventionally, two kinds of approaches were performed for solution of this problem. One is supplied to a processing laboratory in the so-called form of the solid-state processing agent which prepared the dry-chemicals mixture which mixed the processing chemical which constitutes processing liquid by the ratio according to a processing liquid configuration, and packed it. It is the method which dissolves it in water in a processing laboratory, dilutes to suitable concentration, and is used as processing liquid. Another is a method which dilutes to the concentration which supplied the processing laboratory in the form of the thick liquid processing agent with which dissolved the configuration processing chemical in high concentration, changed into the liquefied thick condition, and the container was filled up, and was able to define it in the processing laboratory with water etc., and is used for it as processing liquid. The former is described at U.S. Pat. No. 2843484, 2846308, the Canada patent 831st, No. 928, etc., and the latter is describing the thick liquid processing agent for color development at U.S. Pat. No. 3574619, 3647461, 3814606, and the open British patent specification No. 2016723.

[0004] In the small-scale color processing laboratory called the mini-laboratory or shop front lab which is increasing rapidly in recent years, usually there is not a development operator with expertise and the operator who is not skilled in an activity is carrying out to the development activity in many cases. Therefore, it is necessary to be a pile thing, and a development activity is simplified as much as possible, a development agent can also be dealt with easily and this has become [ the liquid processing agent ] a lifting advantageous therefore with the general use gestalt from the solid-state processing agent about the adjustment mistake of processing liquid at this purpose. However, a liquid processing agent has the fault to

which it is easy to receive air oxidation, and between components tends to react. Therefore, in order to prevent this and to secure prolonged preservation stability, the means which divide a liquid processing agent into two or more PERT are taken. For example, the most general configuration of a developer constituent is divided into 3 of preservatives PERT, such as alkali-chemicals PERT, color development agent PERT, and a hydroxylamine, PERT. However, in small-scale color processing laboratories, such as a mini-laboratory, the processing agent divided into PERT has a lifting and a cone fault in a preparation mistake. Even if the activity in a processing laboratory is an easy liquid processing agent, therefore, preparation of processing liquid [ still easier ] The processing agent which is preparation needlessness desirably and is moreover easy to treat other working planes, That is, it is not only condensed, but a processing agent which, if possible, consists of a small number of PERT is desired (generally for reaction prevention of constituents, advanced thickening, etc.). A constituent is divided into two or more liquids and solutions, and it considers as 2 agents or the developer constituent of 3 agent configurations in many cases, and is usually an international standard about them. ISO 5989 According to the international common name, it is called 1, 2, 3 PERT configurations, etc. In addition, also in the following description, 1 agent, 2 agents, etc. may be called single part and 2 PERT.

[0005] Moreover, from a viewpoint of environmental preservation, the processing agent container is wanted to be made from the single component (that is, for it not to be composite material) in which playback use is possible. Therefore, when it constitutes a kit, each configuration processing agent constituent is wanted to be contained by the container of a common ingredient. It is it especially raising the economical efficiency of a recycle process upwards making a container thin furthermore and decreasing the quantity of the ingredient itself and a used container's being crushed and reduced to coincidence, and wished. The thickness of the concrete container which fulfills such demand characteristics is a polyethylene bottle and a polypropylene bottle 1mm or less. However, the container with such a thin container wall has large oxygen permeability, and is unsuitable for the container for processing agent constituents which is easy to receive oxidation like a developer constituent. It is desirable to be made to the container for developer constituents which is easy to receive air oxidation during preservation with the low ingredient of oxygen permeability as indicated by JP,6-3773,A.

[0006] On the other hand, about the container for bleaching agent content constituents, during preservation of a bleaching agent content constituent, the reductant of a constituent arises that supply of oxygen is inadequate, and activity tends to fall. Therefore, as for the container for bleaching agent content constituents, it is desirable that it is made of an ingredient with the high air permeability of a container as indicated by JP,2-29643,A. That is, although the common thing of a container is desirable for playback use, from the field of the stability of a constituent, communalization of a container is not desirable. This conflict is solved, it is the container of a common single ingredient, and a color development agent constituent and a bleaching agent content constituent are 1 parts configurations, and, moreover, implementation of a stable concentration liquid constituent kit is desired also during preservation.

[0007]

[Problem(s) to be Solved by the Invention] therefore, the technical problem which should solve this invention — both a color development agent constituent and a bleaching agent content constituent — although — an activity [ in / moreover / it is stable during preservation and / a processing laboratory ] — simple — and a container — playback — it is offering the processing agent constituent kit for color photography sensitive material with which the container made from the usable common ingredient is filled up. The 2nd purpose of this invention is simple for the actuation which used the above-mentioned processing agent constituent containing a plastic envelope, and it is offering the color development approach quality's being maintainable to stability.

[0008]

[Means for Solving the Problem] As a result of repeating examination wholeheartedly to the above-mentioned purpose, this invention persons the oxygen transmission rate of a plastic envelope The unique phenomenon in which a transmission rate decreases when it is dependent on the specific gravity value of the color development agent constituent with which it filled up and has a certain specific gravity value is discovered. This invention was reached as a result of repeating examination about possibility that the specific gravity of a color development agent constituent and a bleaching agent content constituent is adjusted, and the oxygen transmission rate of a container can be permitted to any of a color development agent constituent and a bleaching agent content constituent based on this discovery. That is, the purpose of this invention is reached by the processing agent constituent kit of following entering a plastic envelope.

[0009] Specific gravity is 1.15-1.30, and the coloring color development agent constituent consists of

single liquids and solutions containing all the constituents of a development replenisher. 1.(\*\*) A (b) bleaching agent content constituent In 1.15–1.30, specific gravity is [ bleaching agent concentration ] 0.5–3 mols/l. And it consists of single liquids and solutions containing all the constituents of a bleaching replenisher. It has the volume as the same configuration with same above-mentioned color development agent constituent and above-mentioned bleaching agent content constituent. (Ha) and the container made from the common and single component is filled up, respectively — having — \*\*\*\* — (d) — the processing agent constituent kit for photographs characterized by incorporating those containers in a single cartridge.

[0010] 2. Processing agent constituent kit for photographs given in the above 1 characterized by oxygen transmission rate of container for processing agent constituent restoration being container of 4–13mlper 1l. of processing agent constituents/(24hr.atm.l) (per unit volume of contents liquid [ in / at the temperature C of 25 degrees / 50% of relative humidity ]).

[0011] 3. The above 1 characterized by filling up with polyolefin resin container made as single component, or processing agent constituent kit given in 2.

[0012] 4. Processing agent constituent kit given in either of the above 1–3 characterized by incorporating all processing agent constituents with which all processing agent constituents that constitute kit have the same volume as the same configuration, and container made from common and single component is filled up with them, respectively, and container was filled up further in single cartridge.

[0013] 5. Processing agent constituent kit given in either of the above 1–4 characterized by thing of compound with which \*\*\*\*\* developer constituent which constitutes kit is chosen from each group of alkanol expressed with alkanolamines and following general formula [S] which are expressed with following general formula [A] included for one at least.

$[H(R'O) m R] n NH (3-n) [A]$

In a general formula [A], 0 or 1, and n of m are the integers of 1–3, and, as for the hydroxy permutation alkylene group of 2 to 4, and R', a carbon number is [ the carbon number of R ] the alkylene group or hydroxy permutation alkylene group of 1–4. However, when m is 0, if n is 2 if the carbon number of R is 2, and the carbon numbers of R are 3–4, n is 1, 2, or 3. Moreover, when m is 1, it is not based on the class of R but n is 1, 2, or 3.

[0014]

$R11-O-(X1) m-(X2) n-R12 [S]$

In a general formula [S], R11 and R12 express a hydrogen atom or a low-grade alkyl group respectively, and it is X1. And X2 Expressing an alkyleneoxy radical or a hydroxy alkyleneoxy radical respectively, m and n express the integer of 0, or 1–100 respectively. However, it is  $m+n \leq 100$ .

[0015] 6. Development approach of silver halide color photography sensitive material characterized by carrying out color development processing, equipping auto-processor which has automatic soaping-machine style with development agent constituent kit given [ the exposed silver halide color photography sensitive material ] in either of the above 1–5, and supplying automatically.

[0016] The secret of this invention is by amelioration of each element by carrying out combining specific gravity accommodation of a processing agent constituent, and selection of a container ingredient for the purpose of "the kit contained by the single cartridge the configuration constituent with which the recyclable common container was filled up is stable respectively, and the single part" which is not reached to have been realizable. [ cartridge ] Namely, it is related with a processing agent constituent container the 1st. The container with which it is the common single component which can perform playback use, and the material of construction is little and it is sufficient for it Are making it realize by finding out the specific gravity conditions which can permit the oxygen transmission rate of a container, and it is related with the 2nd at a development working plane. Preparation (preparation) actuation of processing liquid is making the kit which bundles up a class product as 1 agent configuration, and can treat easy or unnecessary handling nature realize, and is related with the engine performance of a processing agent the 3rd. The shape of the photograph engine performance or liquid is making the addition compound which explains to accommodation of the specific gravity value of a color development agent constituent or a bleaching constituent, and the back the developer constituent maintained by stability realize.

[0017] After especially equipping with the container which filled up the auto-processor with the color development agent constituent and pouring in the contents of this container into a development supplement tub, while the water of a constant rate washes the inside of a container the water used for washing — the inside of a supplement tub — introducing — preparation of a replenisher — the development approach of silver halide color photography sensitive material of using it as service water and performing a development using the obtained replenisher A lab activity is easy, and is the mode in which

the load of the recycle process of a container also demonstrates the advantage of little this invention, and the detail is described later. In addition, although "the container of a single component" means consisting of one kind of ingredients instead of composite material like the laminating agent of two sorts of ingredients as mentioned above. As opposed to the bottle of polyethylene into the seal part of the cap or a cap, or a contact part with the body of a bottle. Since the amount used is little and playback usability is secured when the same polyethylene also uses that in which grade, such as a consistency, differs from the body of a bottle, it is considered that such a bottle with a cap consists of "a single component."

[0018]

[Embodiment of the Invention] The gestalt of the operation of this invention to the following is explained to a detail. The processing agent constituent kit of this invention about a color development agent constituent. Specific gravity is between 1.15–1.30, and all the constituents of a development replenisher are constituted from single liquids and solutions. About a bleaching agent content constituent. Specific gravity is between 1.15–1.30, and bleaching agent concentration is 0.5–3 mols/l. It consists of single liquids and solutions containing the whole quantity of a bleaching agent required for a development. And an above-mentioned color development agent constituent and an above-mentioned bleaching agent content constituent. It is a common configuration and the volume, and it is contained by the container made from the common single ingredient, and it is the description that those containers were incorporated in the same cartridge.

[0019] Although the specific gravity of the usual color development replenisher is about 1.05, it is the indispensable requirements on the manifestation of the invention effectiveness to set the specific gravity of the color development agent constituent for preparing that replenisher to 1.15–1.30 in this invention, in the range of this specific gravity value, it is hard to receive air oxidation, therefore a reduction of the preservatives in a component or a color development chief remedy with time is prevented. Even if a specific gravity value is lower than this field and it is high, degradation of the constituent by air oxidation increases. That is, when a specific gravity value is lower than this range, reduction of the concentration of the preservatives by air oxidation or a color development chief remedy becomes remarkable, when higher than this range, a tar-like separation object will carry out coloring contamination of a developer, a container, or the developing-machine wall, and the oxidized color development chief remedy will degrade a color development agent constituent anyway. Therefore, shelf life of a color development agent constituent can be made into the period (usually at least ten months, desirably one years or more) needed practically by adjusting specific gravity in this range. The range where a specific gravity value is desirable is 1.18–1.27, and is 1.18–1.24 more preferably.

[0020] As for the concrete means which raises a specific gravity value to this range, it is simplest to raise the enrichment of a constituent. It is effective that solubility chooses a compound with few bad influences to photograph nature as a constituent greatly relatively in the compound group of these functions, such as to use potassium carbonate for alkali chemicals and to use potassium chloride for a chloride in order to avoid that solubility restrains and a component deposits, in case enrichment is raised. Moreover, they are the large carbonic acid alkali of the contribution to specific gravity, and the means which can be taken in in the range which the photograph engine performance allows also in making many potassium carbonate contain and enlarging specific gravity also in it among alkali chemicals, such as carbonic acid alkali in a constituent, a potassium hydroxide, and a sodium hydroxide. Moreover, for the purpose of only specific gravity accommodation, it may not have buffer capacity in the nine to pH12 neighborhood, but alkali soluble an inorganic-acid salt or an organic-acid salt which is stated to the next with little effect also at the photograph engine performance may be added. Moreover, it is also desirable this and to add the dissolution assistant which raises solubility so that it may state below.

[0021] As an example of a dissolution assistant desirable in order to raise the solubility of each component, when using a water-soluble dissolution assistant. Alcohols, such as methyl alcohol, ethyl alcohol, propyl alcohol, and isopropyl alcohol, Ethylene glycol, a diethylene glycol, triethylene glycol, Glycols, such as a with a molecular weight of 6000 or less polyethylene glycol. Alkanolamines, such as diethanolamine and triethanolamine, Para toluenesulfonic acid sodium, and a PARATORUE potassium are desirable, and a diethylene glycol and a Para toluenesulfonic acid salt are especially desirable.

[0022] Moreover, it is also desirable to add sodium salt and potassium salt of a chelating agent, such as the sodium carbonate and potassium carbonate which are known as a component of color development liquid or a color development replenisher, other ethylenediaminetetraacetic acid, a diethylenetriamine pentaacetic acid, the 1-hydroxy ethylidene 1, 1-diphosphonic acid, hydroxy ethylimino 2 acetic acid, nitrilotriacetic acid, ethylenediamine 4 methylene phosphonic acid, and nitrilotrimethylenephosphonate, more than the usual quantitative ratio with other components, and to raise specific gravity.

[0023] A compound with still less effect for the engine performance of color development liquid can be



added, and specific gravity can also be adjusted. Organic acids, such as an acetic acid besides alkali-metal sulfates and alkali-metal chlorides, such as a sodium sulfate, potassium sulfate, a sodium chloride, and potassium chloride, oxalic acid, a citric acid, a maleic acid, succinic acid, a product from a tartar, a product from a horse mackerel pin, a glycolic acid, a lactic acid, and a glutaric acid, may be made to contain in the form of sodium salt, potassium salt, or lithium salt as an example of such a specific gravity modifier. In addition, JP,6-02627,A may be made to contain various kinds of monosaccharides of a publication.

[0024] Although the mechanism of action of the effectiveness of specific gravity accommodation of this invention is not clear, change of the rate of absorption to the processing agent of the oxygen in air or a carbon dioxide and the reaction rate between processing agent components combines, and what produces the optimal effectiveness in the specific gravity range of this invention is presumed.

[0025] Although it is dependent on the presentation of the developer to be used, in many cases, a concentration rate required to make specific gravity into this range is the 1.5 to 10 times as much range as a developer, more generally is two to 8 times, and becomes three to 8 times at many developers for \*\*. In addition, the enrichment in this case means the dilution scale factor at the time of preparing a development replenisher by dilution from a constituent.

[0026] In the case of salts, such as a 4-amino-3-methyl-N-ethyl-N-(beta-methane sulfo amide ethyl) aniline, its chloride, a sulfate, and a p-toluenesulfonic-acid salt, the color development chief remedy is accepted, therefore, as for this specific specific gravity range, these color development chief remedies are used by this invention. Especially desirable color development chief remedies are 4-amino-3-methyl-N-ethyl-N-(beta-methane sulfo amide ethyl) aniline 3 / disulfuric acid salt 1 hydrate in it.

[0027] In this invention, a specific gravity value has a bleaching agent content constituent between 1.15-1.30, bleaching agent concentration is 0.5-3 mols/l., and it includes all the constituents of a bleaching replenisher in a single constituent. Since the oxygen supplied by penetrating that container wall will serve as an amount which is sufficient for preventing degradation of a bleaching agent when the thing, the common plastic envelope, especially polyolefin resin container for color development agent constituents are used if the concentration of a bleaching agent and specific gravity are in this level, it becomes possible to prevent air oxidation of a color development agent, to be able to prevent reduction of a bleaching agent with the passage of time, and to save all with a common container, at stability. An ingredient is the same as a common container here, and it is absolute requirements that it is not necessary to classify at a recycle process, and it is requirements with especially desirable a configuration and magnitude being also still the same, and storage and handling also become easy and economical by satisfying this requirement. When a specific gravity value is higher than the above-mentioned range, there is little oxygen (air) supply from a vessel wall, therefore although it will be necessary to make container thickness thin since the stability of a bleaching agent content constituent with the passage of time falls, since the stability of a color development agent constituent with the passage of time will be spoiled if it is made thin, communalization of a container becomes impossible. Although it passes and the Tokiyasu quality improves when a specific gravity value is lower than the above-mentioned range, in addition to the volume increasing and the load in the field of an ingredient, transportation, and handling increasing, the container for color development agents and communalization of size also become difficult, and become disadvantageous also for the reuse of a container.

[0028] Moreover, in this invention, concentration of a bleaching agent is carried out in 0.5-3.0 mols/l. As long as the bleaching agent for \*\* mentioned later is used, in order to consider as specific gravity value convention-within the limits and to fully demonstrate bleaching capacity, it is necessary to carry out the concentration in 0.5-3.0 mols/l. The range of a desirable specific gravity value is between 1.18-1.28, and is 1.18-1.25 more preferably. Moreover, the range of 0.5-2.7 mols /where bleaching agent concentration is desirable is [ 1. ] 0.6-2.5 mols/l. more preferably.

[0029] In order to adjust the specific gravity of a bleaching agent content constituent in this range, it is practical that the enrichment of a constituent performs. By constraint of solubility, raising enrichment chooses a salt with few bad influences to photograph nature for using ammonium salt and potassium salt etc. as a material greatly [ solubility ] relatively in a congener compound group, in being difficult. moreover — although a water-soluble halide compound is added as a constituent when a bleaching agent content constituent is used not as the replenisher for bleaching fixing but as a replenisher for bleaching — that case — sodium salt — potassium salt — when it adds in the form of ammonium salt more preferably, there is little constraint of solubility. In addition, a means applicable also to specific gravity accommodation of a bleaching agent content constituent can also be chosen from means to adjust the specific gravity of the above-mentioned color development agent constituent. For example, the specific component in a constituent is added more than the usual component ratio with other constituents, and it is sufficient, and

the approach of adding the comparatively small compound of effect for the bleaching engine performance is effective, and many of instantiation compounds described above to the addition to a color development agent constituent can use it also for a bleaching agent content constituent.

[0030] whether the addition method of a processing agent adds the usual specific gravity of the used solution of the liquid (\*\*\*\*\* and bleach fix bath) which has bleaching ability independently of a fixing agent or it mixes, dilutes and adds, and an operative condition — although it therefore differs like, focusing on 1.15, it is the range of 1.10–1.20, and is in the range whose bleaching agent concentration is 0.1–0.8 mols/l. By 1.15–1.30, although the concentration rate of the bleaching agent content constituent whose bleaching agent concentration is 0.5–3 mols/l. changes somewhat with formulas of a used solution, more generally it is 1.5 to 2.0 times the specific gravity of this 1.1 to 3.0 times, and it can dilute with water easily, and it can consider as a used solution.

[0031] This concentration constituent is 1 parts configuration in which the whole quantity of a bleaching agent component required for a development was included in the single constituent. in addition, when you put in and use for a bleaching bath tank only the bleaching replenisher prepared from this constituent when the target development process has a bleaching bath and down stream processing has a bleaching fixing bath, the fixing replenisher obtained from the fixing agent content constituent besides a bleaching replenisher prepared from this constituent should also pass direct or other baths (for example, fixing bath) — it becomes a bleaching fixing bath by adding to the same bath. Moreover, the approach of adding a constituent and water on a direct-processing tank, respectively may be used instead of diluting a constituent and adding as a replenisher.

[0032] Depending on three sorts, a color development agent constituent, a bleaching agent content constituent, and a fixing agent content constituent, and the case, a stabilizer constituent is added further, and, in the case of the all processing agent constituents used for a development, for example, many, constitute one processing agent kit, but In this invention, all of the configuration processing agent of these kits are contained in the container made by the same single component, and especially the thing for which each container has the same configuration and magnitude mitigates the workload of handling nature and playback use and is convenient. As for the same single component, it is desirable that it is polyolefin resin, and its high density polyethylene (HDPE) is especially desirable also in polyethylene resin.

[0033] Consist of a container which consists of a common single component of this invention and which has an especially common configuration and the especially common volume. The kit of the cartridge of a single <TXF FR=0002 HE=250 WI=080 LX=1100 LY=0300> Since it is loaded with all the processing agent constituent bottles that are alike in the simplicity of the above-mentioned workability or handling nature, and the certainty of processing quality maintenance, in addition constitute a kit into a cartridge, the condition, i.e., condition of having unified, which fixed mutual physical relationship Wearing to an auto-processor can also bundle up each configuration container, and can be performed. Moreover, transportation, preservation, and handling can be performed simply.

[0034] The ingredient of a container is explained further. The oxygen transmission rate of the container which consisted of single materials used by this invention is 4–13ml/(24hr.atm.l) (per unit volume of contents liquid [ in / at the temperature C of 25 degrees / 50% of relative humidity ]), and the desirable range is 5–12ml/(24hr.atm.l). This value is a value broken by the volume (liter) of the processing agent constituent with which a container measures per [ which was measured by the state of the sky ] unit volume and the amount of oxygen transparency per 24 hours, and is filled up with it by the container. The oxygen transmission rate per 1l. of this internal solution may be called the amount of oxygen transparency. In the container exterior, the interior carries out the quantum of the measurement of the amount of oxygen transparency using oxygen or air with the gas-chromatograph equipment of marketing of the oxygen density which fills nitrogen gas and is penetrated inside in fact. When an external ambient atmosphere is air, the oxygen tension of air is used and computed to external oxygen pressure.

[0035] Furthermore, a workload can be lessened also at the playback process of a container ingredient. As such a functional cartridge ingredient, the thing of a metal frame type, the thing of a plastics frame or a plastics box method, the thing of a paper box mold, etc. can be used. Although the cartridge of inside or a paper ingredient is desirable, especially the cartridge of paper board ingredients (a board, corrugated paper, etc.) is desirable also in it.

[0036] Although it is natural when the oxygen transmission rate of a container exceeds the above-mentioned range, air oxidation becomes remarkable and degradation of a color development agent constituent becomes quick. Conversely, when lower than the above-mentioned range, degradation of a bleaching agent content constituent takes place, and also it means using a container ingredient beyond the need, and un-arranging produces that the load of a recycle process increases, the thing in a transportation



supply process to do for cost \*\*\*\*\*, the thing which it is hard to reduce a used container (it is hard to crush) in respect of each.

[0037] The container ingredient suitable for the purpose of this invention needs to be the ingredient which playback use is easy and does not give trouble to workability as already stated, but can save a color development agent constituent at stability. Polyamide resin, such as polyester resin, acrylic resin, ABS plastics, an epoxy resin, and nylon, polyurethane resin, polystyrene resin, polycarbonate resin, PVA, a polyvinyl chloride, Pori chlorination BINICHIDEN, and polyethylene resin fill this demand, and an ingredient convenient for the purpose of this invention also in it is an ingredient constituted considering polyolefin resin, such as polyethylene and polypropylene, as a single macromolecule material. Also in it, polyethylene is desirable and a high density mold and the so-called HDPE are desirable as a container ingredient also in polyethylene. The consistencies of HDPE suitable for a container ingredient are 0.94–0.97. Although the especially big advantage is easy to recycle, it is that the polyethylene made unsuitable has protection nature usable as a container in color development agent constituents conventionally in the combination of the color development agent constituent of this invention, and a bleaching agent content constituent since air barrier property is inadequate.

[0038] By using each container the object for color development agent constituents, and for bleaching agent content constituents as common plastic material, the need of classifying both at the recycle process of the container after use is lost, the economical efficiency of a process and working efficiency are raised, and practical playback use is enabled. Furthermore, facilitation and promotion of efficiency are reached by communalizing a configuration and magnitude covering each field, such as transportation of a processing agent kit, storage, wearing to a developing machine, and handling at the time of a development activity. An example of the wearing gestalt to the auto-processor of the container inclusion kit equipped with the characteristic advantage of such this invention is shown in drawing 3 and drawing 4, and the detail is explained later.

[0039] The still more concrete mode of this invention is explained below. The constituent of the processing agent constituent first used by this invention is explained further. By [ of the compound chosen from each group of the alkanol expressed with the alkanolamines and the general formula [S] which are expressed with a general formula [A] ] including one at least, the stability over air oxidation of a constituent increases and the color development agent constituent concerning this invention can extend further range, such as specific gravity of the constituent which can share a container, a configuration of a container, magnitude, and \*\*\*\*.

[0040] Addition of the alkanolamines of a general formula [A] has the effectiveness which inhibits both precipitation and coloring. Effective alkanolamines are [ 0 or 1, and n of m ] 1–3 in a general formula (A), and, as for the straight chain of 2 to 4 or the hydroxy permutation alkylene group of branching, and R', a carbon atomic number, such as hydroxy ethylene and an n-hydroxy propylene radical, is [ carbon atomic numbers of R, such as a methylene group ethylene, n-propylene radical, and hydroxy ethylene, ] the straight chains, branching alkylene groups, or hydroxy permutation alkylene groups of 1–4. However, when m is 0, if n is 2 if it is the carbon atomic number 2 of R, and the carbon atomic numbers of R are 3–4, n is 1, 2, or 3. Moreover, when m is 1, it is not based on the class of R but n is 1, 2, or 3.

[0041] Effective alkanolamines are especially shown below also in it.

A-1 Tri-isopropanolamine, A-2 Diisopropanolamine, A-3 Monoisopropanolamine, A-4 Diethanolamine, A-5 2, 3-dihydroKISHIRU propylamine, A-6 A JI (2, 3-dihydroKISHIRU propyl) amine, A-7 A JI (4-butanol) amine and especially effective alkanolamine are tri-isopropanolamine, diisopropanolamine, and diethanolamine. Even if it becomes excessive [ an alkyl part ] as effective alkanolamines have the suitable balance of a hydrophilic radical and a hydrophobic radical, and hydrophobicity increases to the purpose of this invention, even when a hydrophilic part is conversely excessive, there is little effectiveness. For example, as for the triethanolamine which is a well-known organic solvent for developer addition, effectiveness is not conventionally accepted in the purpose of this invention.

[0042] The addition of the above-mentioned alkanolamines is 0.02–3 mols per 1l. of color development agent constituents, and is 0.1–1 mol still more preferably 0.05–2 mols preferably.

[0043] Next, the compound expressed with the general formula [S] used by this invention is explained in more detail. In a general formula [S], R11 and R12 express a hydrogen atom or a low-grade alkyl group respectively, and are a hydrogen atom, a methyl group, an ethyl group, a propyl group, butyl, and a pentyl radical preferably. X1 And X2 A straight chain, a branching alkyleneoxy radical, or a hydroxy alkyleneoxy radical is expressed respectively, and they are an ethyleneoxy radical, a trimethylene oxy-radical, n-propyleneoxy radical, and a 2-hydroxy-n-propyleneoxy radical preferably. m and n express the integer of 0, or 1–100 respectively. However, it is  $m+n \leq 100$ .

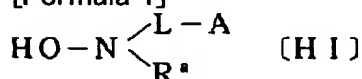
[0044] The desirable instantiation compound of the compound shown by the general formula [S] below is mentioned.

S-1 CH<sub>3</sub>OHS-2 C<sub>2</sub>H<sub>5</sub>OHS-3 CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OHS-4 CH<sub>3</sub>CH(CH<sub>3</sub>)OHS-5 HOCH<sub>2</sub>CH<sub>2</sub>OHS-6 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-7 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>3</sub>S-8 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>S-9 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>S-10 CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-11 C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>C<sub>2</sub>H<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-12 C<sub>3</sub>H<sub>7</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-13 C<sub>4</sub>H<sub>9</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>4</sub>H<sub>9</sub>S-14 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-15 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-16 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>4</sub>H<sub>9</sub>S-17 C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-18 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OHS-19 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-20 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-21 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-22 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>4</sub>H<sub>9</sub>S-23 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-24 C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-25 C<sub>3</sub>H<sub>7</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-26 C<sub>4</sub>H<sub>9</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>4</sub>H<sub>9</sub>S-27 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-28 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-29 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>4</sub>H<sub>9</sub>S-30 C<sub>2</sub>H<sub>5</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-31 HOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OHS-32 HOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-33 HOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>S-34 CH<sub>3</sub>OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>S-35 HOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OC<sub>3</sub>H<sub>7</sub>S-36 HOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OHS-37 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH<sub>2</sub>OHS-38 HOCH<sub>2</sub>CH<sub>2</sub>OH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OHS-39 HOCH<sub>2</sub>CH<sub>2</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>OHS-40 HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH n=4S-41 HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH n=7S-42 HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH n=9S-43 HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH n=14S-44 HO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH n=20 [0045] one especially desirable when carrying out this invention in the compound of a general formula [S] — (S-37), (S-39), (S-40), and (S-41) (S-42), it is. The addition of the compound shown by the general formula [S] has the desirable range of 1.0–100g/l., and it is the range of 5.0–50g/l. more preferably.

[0046] If the hydroxylamine derivative shown by the general formula [HI] is added, it will pass through the color development agent constituent concerning this invention further, and its Tokiyasu quality will improve.

[0047]

[Formula 1]



[0048] Among a general formula [HI], L expresses the alkylene group which may permute the straight chain of carbon numbers 1–10, or branched chain, and its thing of carbon numbers 1–5 is desirable in it.

Specifically, methylene, ethylene, trimethylene, n-propylene, and i-propylene are mentioned as a desirable example. As a substituent, a carboxyl group, a sulfonic group, a phosphono radical, phosphinic acid residue, hydroxyl, and the amino group that may carry out an alkyl (preferably carbon numbers 1–5) permutation are expressed, and a carboxyl group, a sulfonic group, a phosphono radical, and hydroxyl are mentioned as a desirable example in it.

[0049] A expresses a carboxyl group, a sulfonic group, a phosphono radical, phosphinic acid residue, hydroxyl, the amino group that may carry out alkylation, the ammonio radical which may carry out alkylation, the carbamoyl group which may carry out alkylation, the sulfamoyl group which may carry out alkylation, and the alkyl sulfonyl group which may be permuted, and is mentioned as an example with desirable carboxyl group, sulfonic group, hydroxyl, phosphono radical, and carbamoyl group that may carry out alkylation. When each above-mentioned radical has an alkylation radical, the desirable alkyl group is carbon numbers 1–5, and a methyl group and its ethyl group are desirable especially. When A expresses an ammonio radical, the compound of a general formula [HI] may be accompanied by sulfate ion, p-toluenesulfonic-acid ion, the chlorine ion, sulfite ion, etc. as a counter ion of an ammonio radical. Moreover, when L and A are accompanied by the substituent which has acid radicals, such as a carboxyl group, a sulfonic group, a phosphono radical, phosphinic acid residue, and hydroxyl, the hydrogen of the acid radical may be placed with an alkali-metal atom and an ammonium atomic group, and may be replaced. — As an example of L–A, a carboxymethyl radical, a carboxy ethyl group, a carboxy propyl group, a sulfoethyl radical, a sulfopropyl radical, sulfo butyl, a phosphono methyl group, a phosphono ethyl group, and a hydroxyethyl radical can mention as a desirable example, and can mention as an example with especially desirable carboxymethyl radical, carboxy ethyl group, sulfoethyl radical, sulfopropyl radical, phosphono methyl group, and phosphono ethyl group.

[0050] Ra The alkyl group which may permute the straight chain of a hydrogen atom and carbon numbers 1–10 or branched chain is expressed, and carbon numbers 1–5 are desirable. As a substituent, a carboxyl group, a sulfonic group, a phosphono radical, phosphinic acid residue, hydroxyl, the amino group that may

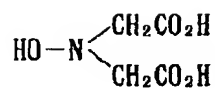
carry out alkylation, the carbamoyl group which may carry out alkylation, the sulfamoyl group which may carry out alkylation, the alkyl sulfonyl group which may be permuted, the acylamino radical, an alkyl sulfonylamino radical, an aryl sulfonylamino radical, an alkoxy carbonyl group, the amino group that may carry out alkylation, an aryl sulfonyl group, a nitro group, a cyano group, and a halogen atom are expressed. The alkyl groups further permuted or it was contained in these substituents are carbon numbers 1–5, and 1–3 are desirable to profit. There may be two or more substituents. Ra desirable especially It can carry out, a hydrogen atom, a carboxymethyl radical, a carboxy ethyl group, a carboxy propyl group, a sulfoethyl radical, a sulfopropyl radical, sulfo butyl, a phosphono methyl group, a phosphono ethyl group, and a hydroxyethyl radical can be mentioned, and a hydrogen atom, a carboxymethyl radical, a carboxy ethyl group, a sulfoethyl radical, a sulfopropyl radical, a phosphono methyl group, and a phosphono ethyl group can be especially mentioned as a desirable example.

[0051] L and Ra It may connect and a ring may be formed. L and Ra They are L and Ra when carrying out ring formation. The amino group in which carries out direct ring formation, and has A as a substituent or A may carry out alkylation is expressed, the nitrogen atom of this amino group is minded, and they are L and Ra. Ring formation (for example, piperazine ring formation) can also be carried out. The number of total carbon of especially a desirable hydroxylamine derivative is Monod of 1–8, or a G alkyl hydroxylamine. Next, the example of the concrete compound of a general formula [HI] is described.

[0052]

[Formula 2]

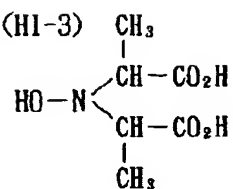
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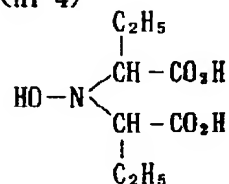
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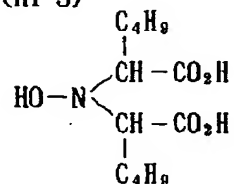
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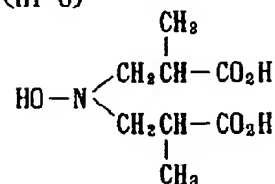
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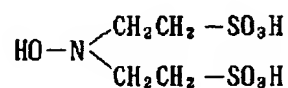
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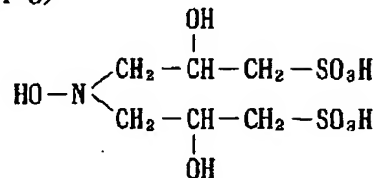
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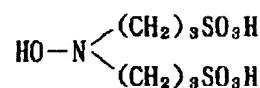
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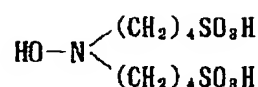
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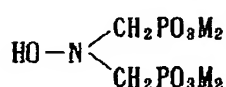
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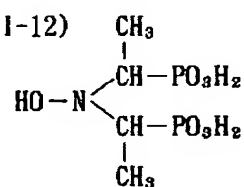
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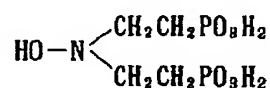
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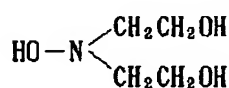
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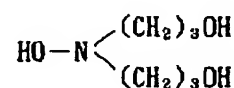
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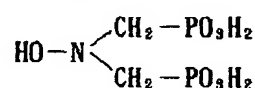
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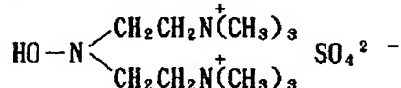
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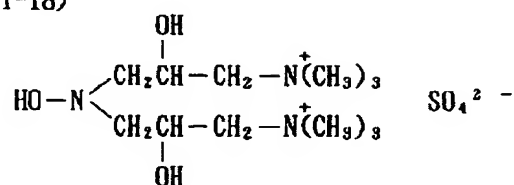
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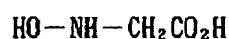
(HI-17)



(HI-18)

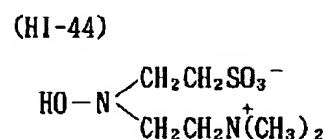
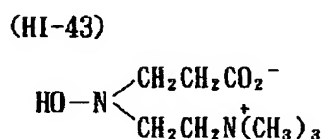
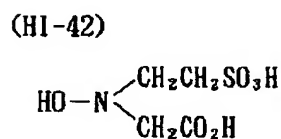
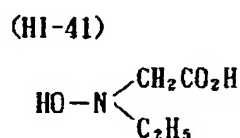
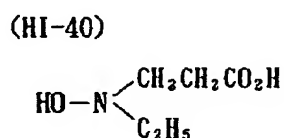
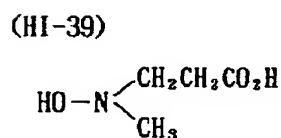
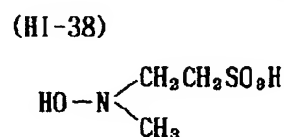
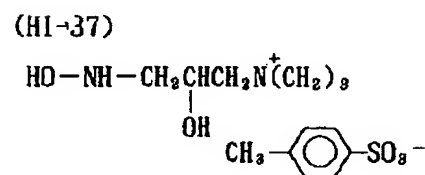
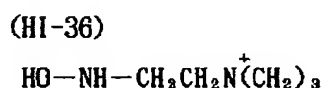
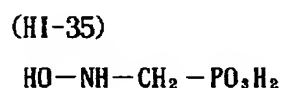
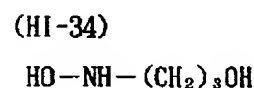
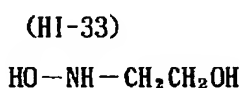
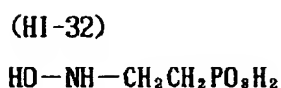
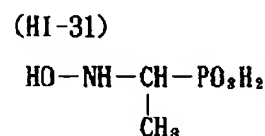
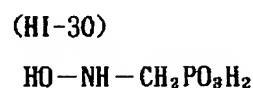
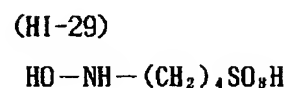
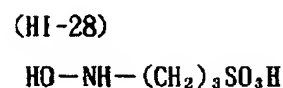
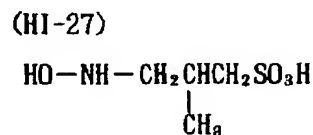
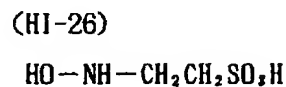
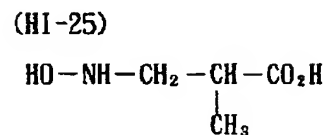
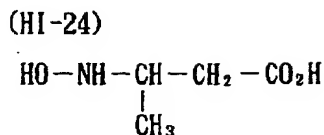
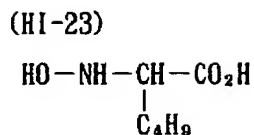
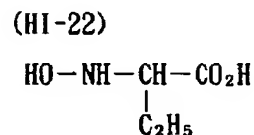
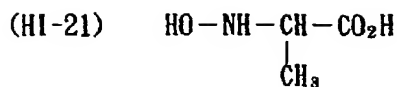
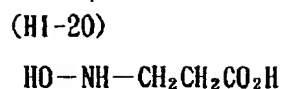


(HI-19)



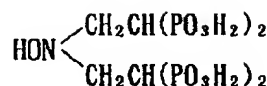
[0053]

[Formula 3]



[0054]  
 [Formula 4]

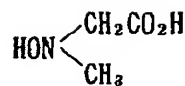
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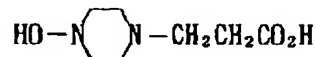
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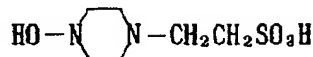
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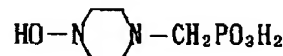
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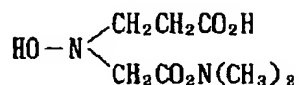
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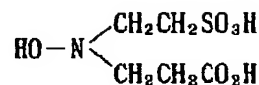
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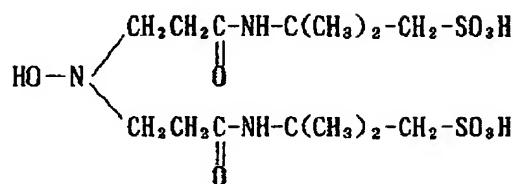
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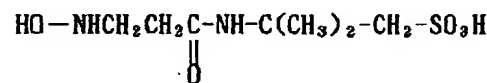
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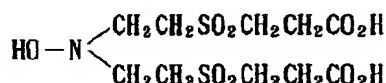
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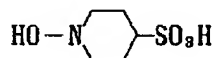
(HI-54)



(HI-55)



(HI-56)

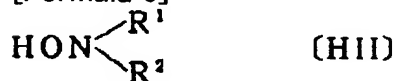


[0055] The compounds expressed with a general formula [HI] are hydroxylamines marketed. It is compoundable by carrying out alkylation reactions (nucleophilic substitution, an addition reaction, Mannich reaction, etc.). According to synthesis methods, such as West Germany JP,1159634,B, "in ORUGANIKAI KEMIKAI AKUTA" (Inorganica Chimica Acta), 93 (1984), and 101-108, it is compoundable. Moreover, the more concrete synthesis method about a compound is indicated by JP,3-266837,A.

[0056] That the carbon number of the substituent shown in the color development agent constituent in connection with this invention at a general formula [HII] adds N-alkyl hydroxylamine of 1-8 Effectiveness is very large when preventing coloring of a development constituent with the passage of time. Therefore, stability while preservation LIFE in the gestalt which filled up the container with the color development constituent also starts use, puts during the reservoir period in a supplement tub and into a developing tank and is performing the development by addition of this hydroxylamine derivative also improves. Any hydroxylamine of a monoalkyl permutation and a dialkyl permutation is effective. If the sum total of a carbon number exceeds 8, solubility will decrease and effectiveness will fall.

[0057]

[Formula 5]



[0058] Desirable N-permutation alkyl groups are a methyl group, an ethyl group, n-propyl group, i-propyl group, n-butyl, i-butyl, t-butyl, t-pentyl radical, n-octyl radical, and t-octyl radical. Desirable N-alkyl hydroxylamines are diethylhydroxylamine, an isopropyl hydroxylamine, a diisopropyl hydroxylamine, a G n-propyl hydroxylamine, and t-pentyl hydroxylamine.

[0059] Although addition of itself is also effective, its effectiveness is still larger when N-alkyl hydroxylamine of a general formula [HII] is used together with the hydroxylamine derivative expressed with



a general formula [HI]. Although the compound of a general formula [HI] has effectiveness also in prevention of coloring of a constituent, its effectiveness is large at the stability of photograph nature. When it uses together, rather than the case where the addition is increased the quantity of and used independently, respectively, effectiveness becomes large further in both the coloring prevention effectiveness and the stabilization effect of photograph nature.

[0060] Although the hydroxylamine derivative of the general formula [HI] to a developer constituent and the addition of N-alkyl hydroxylamine of a general formula [HII] change with enrichment in this invention, all are 0.5g-20g preferably 0.2g - 100g per 1l. of developer constituents. Although there may be few additions at the time of using both together than the case where it is used independently, the range of above-mentioned [ the use range / the compound of a general formula [HI] ] and 0.1g - 50g per 1l. of constituents of compounds of a general formula [HII] are 0.1g-20g preferably. making the former exist so much, when using together the hydroxylamines of a general formula [HI], and N-alkyl hydroxylamines of 1-8 of a general formula [HII] — good — the rate of the addition — a mole ratio — 5-100 — it is 10-30 preferably.

[0061] By making a surfactant contain further in addition to the above, the developer constituent concerning this invention can raise the solubility of a color development chief remedy further, therefore can heighten the suppression effectiveness of generation of the coloring object of the shape of stability and tar over air oxidation. Although many of well-known anionic surface active agents have such effectiveness, especially an anionic surface active agent including the repeat structure of an alkylene oxide radical as especially shown in the following general formula [W] is effective.

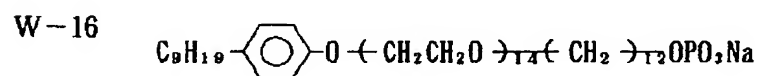
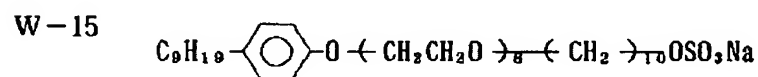
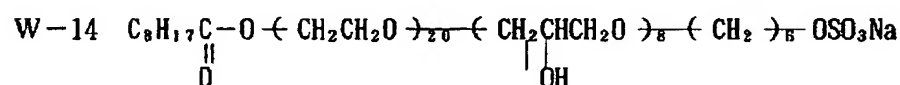
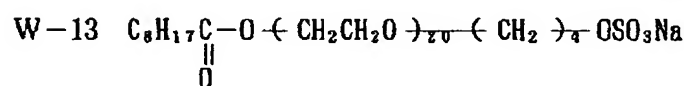
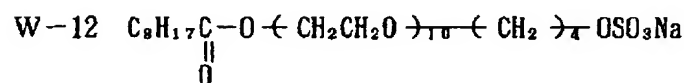
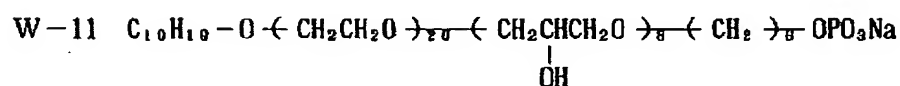
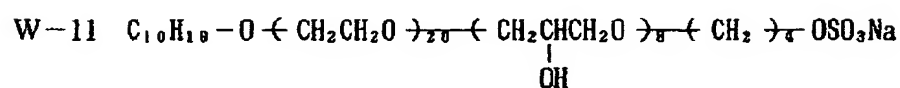
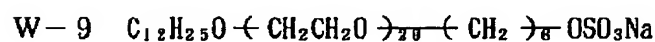
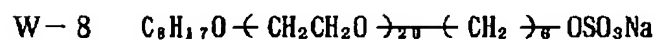
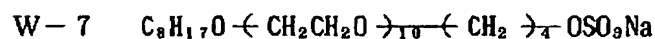
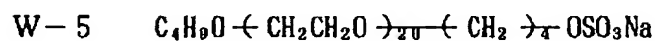
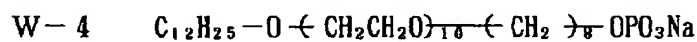
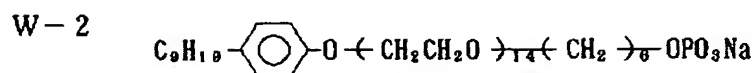
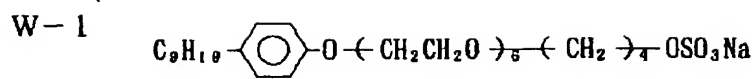
$R_{10}O(CH_2CH_2O)_p [CH_2CH(OH)CH_2O]_q (CH_2)_r V [W]$

[0062] In the above-mentioned general formula [W], the alkyl group of R10 is the straight chain or branching alkyl group of carbon numbers 1-20, and the desirable single prime factors are 3-12. Especially desirable alkyl groups are a straight chain or the branched butyl, a pentyl radical, a hexyl group, an octyl radical, a nonyl radical, and dodecyl. When R10 expresses an alkenyl radical, you may branch also with the straight chain, it is carbon numbers 1-20, and the desirable single prime factors are 3-16. Especially desirable alkenyl radicals are an allyl group, a pentenyl radical, and a hexenyl radical. When R10 expresses an aryl group, it is a phenyl group and a permutation phenyl group, and 1-3 substituents [ 1-2 ] are the straight chains or branching alkyl groups of the carbon numbers 1-20 of one piece more preferably, and the desirable single prime factor is 3-12 pieces. Especially a desirable aryl group is a 4-nonylphenyl radical, 4-octyl phenyl group, 4-dodecyl phenyl group, 2, 5-G t-amyl phenyl group, 2, and 5-G t-octyl phenyl group. When R10 expresses an alkyl carbonyl group, 4-16 have the desirable single prime factor of the alkyl group, and a desirable alkyl carbonyl group has an octyl carbonyl group, a nonyl carbonyl group, a dodecyl carbonyl group, and an especially desirable amyl carbonyl group. The sum of p and q is one or more, and r expresses the integer of 1-50. V expresses a sulfonic group, a phosphoric-acid radical, a sulfonate radical, and a phosphoric ester radical. Especially the case where R10 is an aryl group is desirable, and the range of 2-30 has most desirable p+q. Moreover, as for r, 1-10 are the most desirable.

[0063] Although the example of the anionic surface active agent shown by the general formula [W] is shown below, the anionic surface active agent which can be used for this invention is not limited to this.

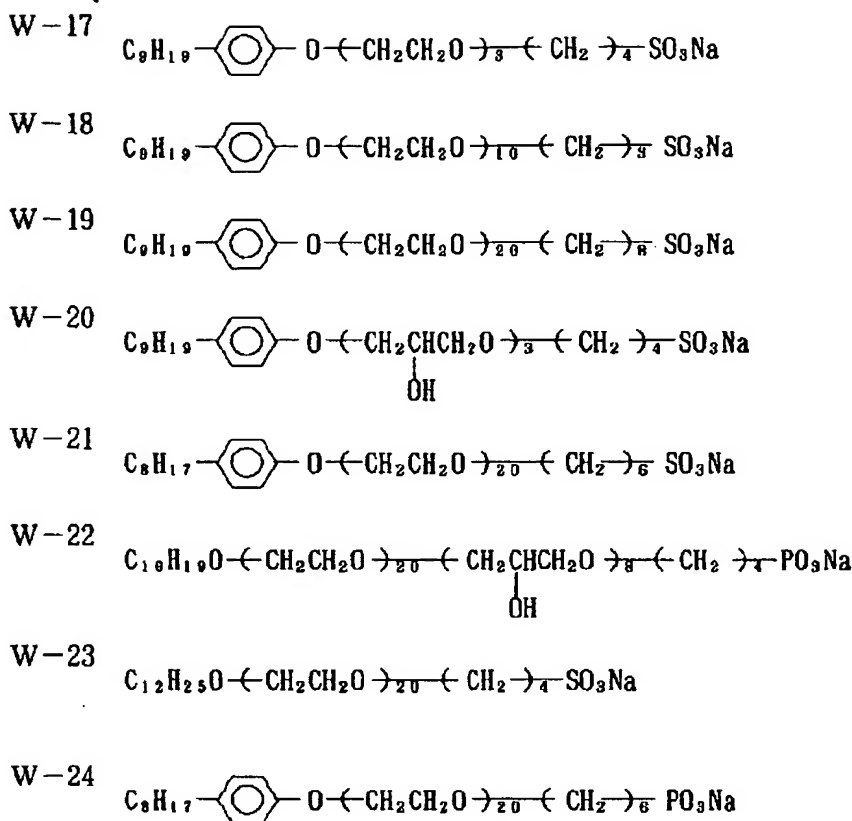
[0064]

[Formula 6]



[0065]

[Formula 7]



[0066] The amount which adds these compounds to a color development agent constituent is 0.5g – about 15g/l. preferably a 0.05g – 30g [l.] profile. These compounds are easily available at a commercial item.

[0067] In this invention, a high-concentration color development chief remedy can be further maintained at stability by adding the benzenesulfonic acid which may carry out alkylation, or its salt to a color development agent constituent. Especially, contamination by coloring of the constituent by the passage of time of a color development agent constituent and its container and adhesion in the sensitive material of the coloring object can be prevented or mitigated. Benzenesulfonic acid, the benzenesulfonic acid by which alkylation was carried out, or these salts are referred to as “carrying out alkylation” here. Moreover, it is desirable not to have any substituents other than an alkyl group and a sulfonic group. The number of substituents of the desirable substituent to the benzene ring is 1–3 in low-grade alkyl groups of carbon numbers 1–3, such as a methyl group, an ethyl group, i-propyl group, and n-propyl group. Especially desirable benzenesulfonic acid is p-toluenesulfonic acid. Moreover, these benzenesulfonic acid may be sodium salt or potassium salt. The addition of these benzenesulfonic acid is 0.02–3 mols per 1l. of color development agent constituents, and is 0.1–1 mol still more preferably 0.05–2 mols preferably.

[0068] The color development agent constituent concerning this invention already explained that thickening to altitude specially was the presentation-description, and it was the technical feature to have conquered constraint of thickening. the concentration rate over the liquid, i.e., the development replenisher, or the mother liquor (tank liquid) of a busy condition with the actual degree of the thickening — one 1.5 to 10 times extent of this — it is — desirable — 2 — or they are three to 5 times still more preferably 8 times.

[0069] The color development agent constituent and bleaching agent content constituent concerning this invention are, the gestalt, i.e., the 1 agent (single part) configuration, in which all the components contained in a used solution were included in one constituent. Also as for the fixing agent content constituent which constitutes a kit, especially considering as 1 agent configuration is desirable. Technical difficulty is also high although dividing a constituent into two or more liquids and solutions, considering as 2 agents or the developer constituent of 3 agent configurations in many cases, and considering as a single part configuration generally has high practical use value because of the simple nature on use because of reaction prevention of constituents, high-concentration-izing, etc. This invention solves this and, moreover, realizes a high-concentration developer constituent with a single part configuration.

[0070] Although the processing agent constituent of a single part configuration is diluted with water and used as a replenisher or tank liquid, about pH, the target pH is not acquired only by diluting with water, but it may adjust pH by addition of alkali chemicals or acid. Unless alkali chemicals and acid are constituted as another parts also in this case, it is called the single part configuration.

[0071] It adds further about the container used for the processing agent constituent kit of this invention next. The polyethylene used for the container of a processing agent constituent The pigment which does not carry out a bad influence to alkaline development constituents, such as carbon black, a titanium white and calcium silicate, and a silica, Additives, such as calcium-carbonate, 2, and 6-G t-butyl-4-methyl phenol (BHT), JISECHIRU sulfide, a tris (laurylthio) FOSU fight, other amine systems, Skid agents, such as known antioxidants, such as a thioether system and a phenol system, stearin acid, or its metal salt, The known ultraviolet ray absorbent which has compatibility in polyethylene including a 2-hide ROKISHI-4-n-octyloxy benzophenone, the known plasticizer which has compatibility in polyethylene may be added as occasion demands. As for the total amount of these additives, it is desirable that it is 50% or less of the total amount of plastics raw material admixture. That in which the ratio of polyethylene does not contain a plasticizer at 85% or more preferably is good, and that in which the ratio of polyethylene does not contain a plasticizer at 95% or more more preferably good.

[0072] In this invention, while raising the airtightness of the checking-and-verifying section of a bottle and its cap, in order to give the buffer nature to an external impact, the quality of the material of a cap is also good to select a suitable thing. In addition, when calling it "a cap" in this invention, it is expressing it as the cap including the seal member of opening of a bottle. It is desirable to use the ingredient with which the cap of a bottle contains low density polyethylene (LDPE) 95% or more to using the ingredient which contains high density polyethylene (HDPE) 95% or more for the body of a bottle. Or even if it has made high density polyethylene (HDPE) into the subject for the cap, it is good for the quality of the materials (for example, packing etc.) of the part which touches the body of a bottle to raise the confidentiality between a bottle and a cap by using the ingredient which contains low density polyethylene (LDPE) 95% or more. The consistencies of LDPE desirable as a cap and a sealing material are 0.91-0.94.

[0073] Although the configuration and structure of a container which are filled up with a processing agent constituent in this invention can be designed to arbitration according to the purpose, they can also use a thing with the flexible septum of a publication for an elastic mold given in JP,58-97046,A, 63-50839, JP,1-235950,A, JP,63-45555,A, etc., JP,58-52065,A, 62-246061, 62-134626, etc. at everything but general fixed form bottle structure.

[0074] Although it is good to make up space into the minimum as it fills [ whether it can do and ] to the month of a container in order to face filling up a container with a processing agent constituent and for a color development agent constituent to raise the safety to air oxidation further, from restoration workability, the safety on transportation, and the workability in a processing laboratory, it is desirable to give a certain amount of space. This space is usually called the head space. In this invention, the head space suitable for the various workability which described the head space above rather than the preservation stability of a processing agent constituent, and safety can be chosen. therefore, a desirable head space — a color development agent constituent, a bleaching agent content constituent, or a fixing agent content constituent — 0.2- of the content volume of a bottle — it is 1.0 - 6.0% preferably 10%. In the case of a developer constituent, it is good to be filled up so that the nitrogen purge of the up space of a bottle may be carried out further and contact into the oxygen in air may be severed, but this invention is not necessarily limited to such a restoration method.

[0075] Shaping of a plastics bottle has shaping methods, such as injection, hollow (blow), injection hollow, a compressed air, extrusion, and a vacuum, and adopts the shaping method according to the purpose. Most generally blow molding (injection blow molding is also included) is used. The bottle concerning this invention is manufactured by injection blow molding, when in many cases a cap is performed by injection molding, a bottle is performed by blow molding and it takes out reinforcement by extension like a PET bottle.

[0076] Although the configuration and structure of a container which are filled up with a developer constituent in this invention can be designed to arbitration according to the purpose, they can also use a thing with the flexible septum of a publication for an elastic mold given in JP,58-97046,A, 63-50839, JP,1-235950,A, JP,63-45555,A, etc., JP,58-52065,A, 62-246061, 62-134626, etc. at everything but general fixed form bottle structure.

[0077] In case the processing agent constituent kit of this invention is used with an auto-processor After equipping with the container filled up with the processing agent constituent in the form of the kit united with the developing machine and pouring the constituent inside a container into each supplement tub or a direct-processing tub, the water used for washing while the spray etc. washed the inside of a container with the water of a constant rate — a supplement tub — introducing — preparation of a replenisher — the development actuation method developed using the replenisher which used as service water, made such and was obtained is a method which uses the advantage of this invention effectively especially. Although washing of a spray method is desirable for the water of a constant rate especially washing the

inside of a container, it is not necessarily limited to this. With this replenisher preparation method, wash water is used effectively and the quantity of the discharge of the waste water of a processing laboratory can be decreased. It is stable, and and it dissolved in the homogeneity which is used by this invention and which does not produce a sludge, it is thick, and since contents tend to flow out and rinsing of the container after it can also be managed with little water, it is suitable [ the processing agent constituent which miniaturized the volume ] as a processing agent equipped with the container soaping-machine style for auto-processors.

[0078] Therefore, especially, as an advantageous embodiment of this invention, if an auto-processor is loaded with a processing agent constituent with a kit, the lid of a container will be unstopped automatically and it will have the structure by which fluid contents are discharged smoothly. Moreover, by the approach indicated by JP,6-82988,A, JP,8-220722,A, etc., the interior of a container becomes clarification, without applying a help with the spray of wash water, can be treated cleanly and becomes easy [ recycle of a waste container ]. And since wash water is used as some dissolution water of a processing agent, it does not serve as waste fluid. the small capacity condensed by the altitude with which the design for such a system was embodied by this invention — moreover — handling — it is will not be realizable without the above-mentioned processing agent constituent kit with which easy sufficient fluidity is maintained over the long period of time.

[0079] Next, explanation about the mode accompanying operation of the processing agent constituent kit of this inventions other than explanation of the mode concerning the requirements for a configuration of this invention and it which were described previously is given directly. A developer constituent is the liquid of the alkaline continuous phase which contained the constituent contained in the usual color development agent in the state of the dissolution. Although a color development chief remedy is contained in it, in this invention, 4-amino-N-ethyl-N-(beta-methane sulfo amide ethyl)-3-methylaniline or its salt is used as the color development chief remedy which becomes main at least. This chief remedy is usually the form of salts, such as a sulfate, a hydrochloride, a sulfite, a naphthalene disulfon acid, and p-toluenesulfonic acid, in the state of a solid-state material. Moreover, in monochrome sensitive material, it adds in recent years so that a coupler may be colored black, and although there are some which form monochrome image using general-purpose common color development liquid, the developer constituent of this invention is applied also to processing of this kind of sensitive material. Moreover, the 4-amino-N-ethyl-N-(beta-hydroxyethyl)-3-methylaniline or its salt other than the above-mentioned color development chief remedy may be added auxiliary for speeding up of development etc.

[0080] although it is mixed by the ratio determined as water on the occasion of use and being used among the constituents which constitute a kit by using a developer constituent as the used solution of the form of a development replenisher (or developer diluted further) — the concentration of this aromatic series primary amine developing agent in a used solution — per 1l. of developers — desirable — 2 millimols — 200 millimol — more — desirable — 12 millimol — 200 millimol, it dilutes so that it may become 12 millimols — 150 millimol still more preferably.

[0081] A developer constituent may contain little sulfite ion according to the class of target sensitive material, or may not contain it substantially. While sulfite ion has a remarkable stabilize action, it is also for being certain to have effect which is not desirable on the photograph-engine performance in a color development process depending on object sensitive material. In this invention, if the hydroxylamine derivative of a general formula [HI], its salt, N-alkyl hydroxylamine of a general formula [HII], or its salt is added as described above, it will be admitted that stability improves, and when especially both are used together, it is effective. Moreover, the hydroxylamine derivative indicated by JP,1-97953,A, 1-186939, 1-186940, the 1-187557 official report, etc. may be further added in addition to these hydroxylamine derivatives.

[0082] In this invention, a developer constituent may contain inorganic preservatives other than aforementioned sulfite ion and an aforementioned hydroxylamine derivative, and organic preservatives. Organic preservatives are making it contain to the processing liquid of sensitive material, and have pointed out the organic compound at large which reduces the degradation rate of an aromatic series primary-amine color developing agent. That is, although it is the organic compounds which have the function to prevent air oxidation of a color developing agent etc., the hydroxylamine derivative except said, hydroxamic acid, hydrazides, phenols, alpha-hydroxyketones, alpha-amino ketones, a saccharide, monoamines, diamines, polyamine, quarternary ammonium salt, nit ROKISHI radicals, alcohols, oximes, diamide compounds, condensed ring type amines, etc. are especially effective organic preservatives especially. these — JP,63-4235,A, 63-30845, 63-21647, 63-44655, 63-53551, 63-43140, 63-56654, 63-58346, 63-43138, 63-146041, 63-44657, 63-44656, and U.S. Pat. No. 3,615,503 — said — 2,494,903 It is indicated by each official report

or specifications, such as a number, JP,52-143020,A, and JP,48-30496,B.

[0083] In addition, as preservatives, the aromatic series polyhydroxy compound of a publication etc. may be contained if needed on JP,57-44148,A and various metals given in a 57-53749 official report, salicylic acids given in JP,59-180588,A, the alkanolamines of said general formula [A] and alkanolamines given in JP,54-3532,A, polyethyleneimine given in JP,56-94349,A, U.S. Pat. No. 3,746,544 specifications, etc. Moreover, the alkanolamines, for example, the triethanolamines, other than the above may be added. As other amines, annular amines which were indicated by JP,63-239447,A, amines which were indicated by JP,63-128340,A, and amines which were indicated by JP,1-186939,A and the 1-187557 official report in addition to this can also be contained.

[0084] To a developer constituent, a chlorine ion may be added if needed. As for a color developer (especially developer for color-print ingredients), although  $3.5 \times 10^{-2}$  to  $1.5 \times 10^{-1}$  mol / of chlorine ions is usually contained l. in many cases, since a chlorine ion is usually emitted to a developer as a by-product of development, a replenisher has many things of addition needlessness. It is among a replenisher, therefore the amount of chlorine ions in the processing agent constituent which becomes the basis is set up so that it may be set to the concentration level which the chlorine ion concentration in the developer tank when reaching a running balance presentation described above. Chlorine ion concentration If [ than l. ] more [ mol / //  $1.5 \times 10^{-1}$  - one ], since it will have the fault of delaying development and quick nature and coloring concentration will be spoiled, it is not desirable. Moreover, in many cases, it is not desirable when preventing fogging by l. in less than  $3.5 \times 10^{-1}$  - two mols /.

[0085] About a developer constituent, it is in the same situation as the case of a chlorine ion also about content of bromine ion. As for the bromine ion in a color developer, in processing of the charge of photography material, it is desirable that it is  $1.0 \times 10^{-1}$  - three mols/l. or less in processing of about one to  $5 \times 10^{-1}$  - three mols [ l. ] /and a print ingredient. Bromine ion may be added into a processing agent constituent if needed so that bromine ion concentration may become this range. When making it contain in a developer constituent, although sodium chloride, potassium chloride, ammonium-chloride, lithium-chloride, nickel chloride, magnesium chloride, manganese chloride, and calcium chloride \*\* is mentioned, desirable things are a sodium chloride and potassium chloride as chlorine ion feed materials. as the feed materials of bromine ion — a sodium bromide, a potassium bromide, an ammonium bromide, a lithium bromide, a calcium bromide, a magnesium bromide, and bromination — manganese, nickel bromide, and bromination — a cerium and bromination — although a thallium is mentioned, desirable things are a potassium bromide and a sodium bromide.

[0086] Since it is an important image quality property that the white ground of the background of a screen is white when the sensitive material by which a development is carried out is color printing paper, it is important to finish white on appearance with a fluorescent brightener. Although a fluorescent brightener is included in sensitive material with the property, it may be made to permeate into sensitive material from processing liquid in the case of a development. In that case, according to the property of a fluorescent brightener, the suitable processing liquid for addition is chosen so that the high brightening effectiveness may be acquired. Therefore, it may be added by color development liquid with high pH. Generally a stilbene system fluorescent brightener is used abundantly, and the fluorescent brightener of a JI (triazyl amino) stilbene system, and the 4 and 4'-diamino -2 and a 2'-disulfo stilbene system is desirable also in it. Although especially desirable stilbene system fluorescent brighteners are the 4 and 4'-JITORI azinyl amino -2 and a 2'-disulfo stilbene, this invention is not limited to these.

[0087] The stilbene system fluorescent brightener used can be well-known, and can come to hand easily, or can be easily compounded by the well-known approach. This stilbene system fluorescent brightener can be added to either desilvering liquid besides color development liquid, or sensitive material. When making it contain in color development liquid, the suitable concentration is  $1 \times 10^{-4}$  to  $5 \times 10^{-1}$  - two mols/l., and is  $2 \times 10^{-4}$  to  $1 \times 10^{-1}$  - two mols/l. more preferably. An addition is decided that, as for the processing agent constituent of this invention, the development of a busy condition contains a fluorescent brightener on this concentration level.

[0088] pH of a developer constituent is in the above mentioned range. And the color developer prepared and a development replenisher are more preferably used by 10.0-12.5 9.5 or more pH. In order to hold pH to stability, it is desirable to use various buffers. As a buffer, phosphate, a borate, tetraborate, a hydroxybenzoic-acid salt, a glycyl salt, a N,N-dimethylglycine salt, a leucine salt, a norleucine salt, a guanine salt, a 3, 4-dihydroxyphenylalanine salt, an alanine salt, an aminobutyric acid salt, the 2-amino-2-methyl -1, 3-propanediol salt, a valine salt, a proline salt, a tris hydroxy aminomethane salt, a lysine salt, etc. can be used out of the above-mentioned carbonate. As for especially a carbonate, phosphate, tetraborate, and a hydroxybenzoic-acid salt, it is desirable to excel in the buffer capacity in a with a pH of



9.0 or more high pH field, for there to be no bad influences (fogging etc.) to a photograph engine—performance side, even if it adds to a color developer, to have the advantage of being cheap, and to use these buffers so that the range of the specific gravity of this invention may be suited.

[0089] As an example of these buffers, a sodium carbonate, potassium carbonate, Sodium bicarbonate, potassium bicarbonate, phosphoric-acid 3 sodium, phosphoric-acid 3 potassium, Phosphoric-acid disodium, phosphoric-acid 2 potassium, the sodium borate, a boric-acid potassium, Sodium tetraborate (borax), a tetraboric-acid potassium, o-hydroxybenzoic acid sodium (sodium salicylate), An o-hydroxybenzoic acid potassium, 5-sulfo-2-hydroxybenzoic-acid sodium (5-sulfosalicylic acid sodium), a 5-sulfo-2-hydroxybenzoic-acid potassium (5-sulfosalicylic acid potassium), etc. can be mentioned. However, this invention is not limited to these compounds. Especially a desirable buffer has the advantage that it is possible to increase specific gravity effectively to especially desirable potassium carbonate, without depositing, since solubility is high. the concentration in the color development replenisher in which the amount of this buffer carried out dilution preparation — 0.01–2 mols/l. or more — especially — It is added in a constituent so that it may become in l. and 0.1 mols/l. – 0.5 mols /.

[0090] In the developer constituent concerning this invention, the various chelating agents which are suspending agents of other color developer components, for example, calcium, and magnesium, or are also stability improvers of a color developer can also be added. For example, nitrilotriacetic acid, a diethylenetriamine pentaacetic acid, ethylenediaminetetraacetic acid, N, N, and N'-trimethylene phosphonic acid, ethylenediamine – N, N, N', and N'-tetramethylen sulfonic acid, Ethylenediamine N, N-JI succinic acid, N, and N-JI (carboxylate)-L-asparatic acid, beta-ARAN[NJI succinic acid, a tolan SUSHIRO hexanediamine tetraacetic acid, 1, 2-diaminopropane tetraacetic acid, 2-phosphono butane – A 1, 2, 4-tricarboxylic acid, 1-hydroxy ethylidene –1, 1-diphosphonic acid, N, N'-screw (2-hydroxybenzyl) ethylenediamine-N, and N'-JI acetic acid, 1, 2-dihydroxybenzene –4, 6-disulfonic acid, etc. are mentioned. Two or more sorts of these chelating agents may be used together if needed. The amount of these chelating agents is per l. that what is necessary is just sufficient amount to block the metal ion in a color developer. It adds so that it may become about 0.1g–10g.

[0091] A developer constituent can add the accelerator of arbitration as occasion demands. As an accelerator, JP,37-16088,B, 37-5987, The thioether system compound expressed with each official report or specifications, such as 38-7826, 44-12380, 45-9019, and U.S. Pat. No. 3,813,247, The p-phenylene diamine system compound expressed by JP,52-49829,A and the 50-15554 official report, The quarternary ammonium salt expressed by JP,50-137726,A, JP,44-30074,B, JP,56-156826,A, the 52-43429 official report, etc. U.S. Pat. No. 2,494,903 — said — 3,128,182 a number — said — 4,230,796 a number — said — 3,253,919 a number, JP,41-11431,B, and U.S. Pat. No. 2,482,546 — said — 2,596,926 a number — and — said — 3,582,346 an amine system compound given in each official report or specifications, such as a number, — JP,37-16088,B, 42-25201, U.S. Pat. No. 3,128,183, The polyalkylene oxide expressed with each official report or specifications, such as JP,41-11431,B, 42-23883, and U.S. Pat. No. 3,532,501, other 1-phenyl-3-pyrazolidone, imidazole derivatives, etc. can be added if needed.

[0092] A developer constituent can add the fogging inhibitor of arbitration if needed. As a fogging inhibitor, the alkali-metal halogenide and the organic fogging inhibitor like a sodium chloride, a potassium bromide, and a potassium iodide can be used. As an organic fogging inhibitor, the nitrogen-containing heterocycle compound like benzotriazol, 6-nitrobenzimidazole, 5-nitroglycerine iso indazole, 5-methyl benzotriazol, 5-nitrobenzo triazole, 5-chloro-benzotriazol, 2-thiazolyl-benzimidazole 2-thiazolyl methyl-benzimidazole indazole, hydroxyazaindolizine, and an adenine can be raised as an example of representation, for example. Moreover, various surfactants, such as an alkyl sulfonic acid, an aryl sulfonic acid, aliphatic carboxylic acid, and aromatic carboxylic acid, may be added if needed in addition to the above mentioned surfactant. The color development replenisher or developer prepared from the color development constituent and it concerning this invention was explained above.

[0093] When the sensitive material by which a development is carried out is a color-print ingredient, the processing temperature of the color development applied to this invention is 30–55 degrees C, is 35–55 degrees C preferably, and is 38–45 degrees C more preferably. Development time amount is 5 – 90 seconds, and is 15 – 60 seconds preferably. Although little direction of the amount of supplements is desirable, 15–600ml per two is [ 1m of sensitive material ] suitable, and 15–120ml is 30–60ml especially preferably. On the other hand, in color development processing of the Calah-negative and a Calah-liver-ape film, development temperature is 20–55, and it is 30–55 degrees C preferably, and it is 38–45 degrees C more preferably. Development time amount is 20 seconds – 6 minutes, and is 30 – 200 seconds preferably. Moreover, by the Calah-liver-ape, 1 – 4 minutes is especially desirable. Although little direction of the amount of supplements is desirable, 100–800ml per two is [ 1m of sensitive material ]

suitable, and 200–500ml is 250–400ml especially preferably preferably.

[0094] In operation of this invention, it goes into desilvering down stream processing following a development process with the color development liquid prepared using the color development agent constituent in the kit of this invention, and bleaching or bleaching fixing processing by the bleach liquor similarly prepared using the bleaching agent content constituent in the kit of this invention is made. A stilbene system fluorescent brightener is contained preferably the compound with the suitable fluorescent brightener described above also in this processing liquid for processing of the sensitive material for a color-print, and often. This fluorescent brightener is added to a bleaching agent content constituent or a fixing agent content constituent. Although a bleaching agent content constituent can be made to contain the bleaching agent of arbitration well-known as a bleaching agent, it is especially iron (III). It is desirable to make organic acids, such as organic complex salt (for example, complex salt of amino polycarboxylic acid) or a citric acid, a tartaric acid, and a malic acid, persulfate, a hydrogen peroxide, etc. contain.

[0095] It is iron (III) among these. Especially organic complex salt is desirable from a viewpoint of quick processing and environmental pollution prevention. Iron (III) Ethylene DIAMINE succinic acid (SS object), N which have biodegradability when useful amino polycarboxylic acid or those salts are enumerated, in order to form organic complex salt –(2-carboxylate ethyl)– Ethylenediaminetetraacetic acid, a diethylenetriamine pentaacetic acid, 1, 3-diaminopropane tetraacetic acid, a propylenediamine tetraacetic acid, nitrilotriacetic acid, cyclohexanediaminetetraacetic acid, an iminodiacetic acid, glycol ether diamine tetraacetic acids including L-aspartic acid, beta-alanine diacetic acid, and methyl iminodiacetate, etc. can be mentioned. Any of sodium, a potassium, CHIRIUMU, or ammonium salt are sufficient as these compounds. In these compounds, they are ethylene DIAMINE succinic acid (SS object) and N. –(2-carboxylate ethyl)– L-aspartic acid, beta-alanine diacetic acid, ethylenediaminetetraacetic acid, 1, 3-diaminopropane tetraacetic acid, and methylimino 2 acetic acid are the iron (III). Complex salt is desirable from the good thing of photograph nature. Such 2nd iron ion complex salt may be used in the form of complex salt, and the 2nd iron ion complex salt may be made to form in a solution using the 2nd iron salt, for example, ferric sulfate, ferric chloride, ferric nitrate, ferric ammonium sulfate, the 2nd iron of phosphoric acid, etc. and chelating agents, such as amino polycarboxylic acid. Moreover, a chelating agent may be superfluously used, more than it forms the 2nd iron ion complex salt. An amino polycarboxylic acid iron complex is desirable also in an iron complex. As described above, although the concentration of the bleaching agent in a bleaching agent content constituent is the range of 0.5–3.0 mols/l., 0.01–1.0 mols /of 0.05–0.50 mols /of 0.10–0.50 mols [l.] bleaching replenishers are preferably prepared still more preferably by dilution l. l. Moreover, in a bleaching agent content constituent, if needed, a hydrochloric acid, a sulfuric acid, a nitric acid, a bicarbonate, ammonia, caustic potash, caustic alkali of sodium, a sodium carbonate, potassium carbonate, way sand, a way acid, etc. may be added in order to give pH adjustment and buffer capacity. Also in that case, the specific gravity value of a bleaching agent content constituent is designed so that it may enter within limits which this invention specified.

[0096] Bleaching time amount is usually 2 minutes from 10 seconds for 30 seconds to 6 minutes and 30 seconds in bleaching processing of a negative color film and a color reversal film at bleaching 1 – 4 minutes and 30 seconds, and for color-print ingredients, or desirable bleaching fixing processing.

[0097] The fixing agent used for a bleach fix bath or a fixer is desirable, and considering as a fixing agent content constituent other than a bleaching agent content constituent is premised on this gestalt for it also in the embodiment of this invention. a fixing agent content constituent — or — and water-soluble silver halide resolvents, such as thioether compounds, such as thiocyanates, such as thiosulfates, such as a fixer prepared, a fixing agent well-known to a bleaching fixing bath, i.e., a sodium thiosulfate, and ammonium thiosulfate, a sodium thiocyanate, and ammonium thiocyanate, ethylene bis-thioglycolic acid, 3, 6-dithia -1, and 8-octanediol, and thiourea, — it is — these — one sort — or two or more sorts can use it, mixing. Moreover, the special bleach fix bath which consists of combination, such as a halogenide like the fixing agent indicated by JP,55-155354,A and a lot of potassium iodides, can be used. In a fixing agent, use of a thiosulfate, especially an ammonium thiosulfate salt is desirable. 0.3–2 mols are desirable still more desirable, and the range of the amount of the fixing agent per l. is 0.5–1.0 mols.

[0098] As for pH field of the bleach fix bath concerning this invention, or a fixer, 3–8 are desirable, and also 4–especially 7 are desirable. Although desilvering nature will improve if pH is lower than this, degradation of liquid and leuco \*\* of cyanogen coloring matter are promoted. Conversely, if pH is higher than this, desilvering will become easy to generate delay and a stain. It is eight or less, as for pH field of the bleach liquor concerning this invention, 2–7 are desirable, and 2–especially 6 are desirable. If pH is lower than this, degradation of liquid and leuco \*\* of cyanogen coloring matter will be promoted, and if pH is conversely higher than this, desilvering will become easy to generate delay and a stain. In order to adjust pH, a

hydrochloric acid, a sulfuric acid, a nitric acid, a bicarbonate, ammonia, caustic potash, caustic alkali of sodium, a sodium carbonate, potassium carbonate, etc. can be added if needed.

[0099] Moreover, in addition to this, a bleach fix bath can be made to contain organic solvents, such as various kinds of fluorescent brighteners, a defoaming agent or a surface active agent, a polyvinyl pyrrolidone, and a methanol. As for a bleach fix bath or a fixer, it is desirable to contain ant-RUSURU fin acids, such as sulfite ion emission compounds, such as sulfites (for example, a sodium sulfite, potassium sulfite, ammonium sulfite, etc.), bisulfites (for example, heavy ammonium sulfite, sodium bisulfite, potassium bisulfite, etc.), and metabisulfite (for example, potassium metabisulfite, sodium metabisulfite, meta-pile ammonium sulfite, etc.), and p-toluene sulfinic acid, m-carboxy benzenesulfinic acid, etc. as preservatives. It converts into sulfite ion or sulfinic-acid ion, and these compounds are about 0.02–1.0. It is desirable to carry out a mol / liter content.

[0100] As preservatives, others, an ascorbic acid, a carbonyl pile sulfurous-acid addition product or a carbonyl compound, etc. may be added. [ above ] Furthermore, a buffer, a fluorescent brightener, a chelating agent, a defoaming agent, an antifungal agent, etc. may be added if needed. the bleaching fixing processing concerning this invention — the processing time — it is 10 – 60 seconds preferably for 5 to 240 seconds. 25 degrees C – 60 degrees C of processing temperature are 30 degrees C – 50 degrees C preferably. Moreover, 20ml – the 250ml per sensitive material one m2 of 30ml – the 100ml of the amounts of supplements is 15ml – 60ml especially preferably preferably.

[0101] It is common after desilvering processing of fixing or bleaching fixing to carry out rinsing and/or stabilizing treatment. rinsing at a rinsing process — amount of water can be broadly set up according to the number (number of stages) of the property (for example, based on use materials, such as a coupler) of sensitive material, an application and rinsing water temperature, and rinsing tanks, and other various conditions. Among these, the number of rinsing tanks in a multistage counterflow method and the relation of amount of water are journal and OBU THE society OBU motion picture – and – tele vision en JINIAZU. (Journal of the Society of Motion Picture and Television Engineers) It is the approach of a publication and the 64th volume and p.248–253 (1955 the year May issue) can be asked. Usually, as for the number of stages in a multistage counterflow method, 3–15 are desirable, and especially 3–10 are desirable.

[0102] according to a multistage counterflow method — rinsing — the problem of being able to decrease sharply and the suspended matter which bacteria bred by the increment in the residence time of the water within a tank, and was generated adhering to sensitive material produces amount of water. The approach of making JP,62–288838,A reducing the calcium of a publication and magnesium as a solution of such a problem can be used very effectively. Moreover, the germicide of a publication can also be used for the volume chlorine-based germicides, such as an iso thiazolone compound given in JP,57–8542,A, and chlorinated-isocyanuric-acid sodium given in sire vendor ZORU and a 61–120145 official report, benzotriazol given in JP,61–267761,A, a copper ion, other Horiguchi \*\*\*\* "chemistry of antimicrobial mildewproofing" (1986) Sankyo Publishing, and on health technical meeting, a "sterilization [ of a microorganism ], sterilization, and mildewproofing technical" (1982) technology meeting, and the edited by Society for Antibacterial and Antifungal Agents, Japan "an antifungal agent encyclopedia" (1986).

[0103] Moreover, the azo RIRUME chill amines of a publication etc. are added by the example of the addition compound which inactivates the Magenta coupler which remains and prevents the tenebrescence of coloring matter, and generation of a stain at aldehydes, such as formaldehyde, an acetaldehyde, and pyruvic aldehyde, a methylol compound given in U.S. Pat. No. 4786583 and a hexamethylenetetramine, hexahydrotriazine given in JP,2–153348,A, a formaldehyde pile sulfurous-acid addition product given in U.S. Pat. No. 4921779, the seizure patent public presentation official report No. 504609, said 519190 numbers, etc.

[0104] Furthermore, a surfactant and the chelating agent represented by EDTA as a water softener can be used for rinsing water as a ridge agent. It can also process by direct slurry, without passing through a rinsing process following the above rinsing process. The buffer for preparing on the film pH suitable for the Magenta coupler deactivator which the aldehyde compound which the compound which has an image stabilization function is added, for example, is represented by formalin, and others described above, and coloring matter stabilization, and an ammonium compound are raised to slurry. Moreover, since fungus resistance is given to the sensitive material after propagation prevention of the bacteria in the inside of liquid, or processing, the various above mentioned germicides and the above mentioned antifungal agent can be used.

[0105] Furthermore, a surfactant, a fluorescent brightener, and a hardening agent can also be added. In the development concerning this invention, when carried out directly, without stabilization passing through a rinsing process, all the well-known approaches of a publication can be used for JP,57–8543,A, 58–14834, a

60-220345 official report, etc. In addition, it is also a desirable mode to use chelating agents, such as the 1-hydroxy ethylidene -1, 1-diphosphonic acid, and ethylenediamine 4 methylene phosphonic acid, magnesium, and a bismuth compound.

[0106] The so-called rinse is similarly used as the wash bath or stabilizer used after desilvering processing. Desirable pH of a rinsing process or a stabilization process is 4-10, and is 5-8 still more preferably. Although temperature can be variously set up in the application, the property, etc. of sensitive material, generally 20 degrees C - 50 degrees C are 25 degrees C - 45 degrees C preferably. Desiccation is performed following rinsing and/or a stabilization process. After coming out from a viewpoint which reduces the amount of carrying in of the moisture to the image film from a wash bath, it is also possible to bring desiccation forward by absorbing water with a squeeze roller, cloth, etc. immediately. Although it is natural as an improvement means from a dryer side, it is possible to bring desiccation forward by changing the configuration of to make temperature high or a spray nozzle, and strengthening a desiccation wind etc. Furthermore, desiccation can be brought forward also by adjustment of the ventilation include angle to the sensitive material of the desiccation style, and the removal approach of a drainage wind as indicated by JP,3-157650,A.

[0107] The good development system of the workability in which water is not especially impressed as an advantageous embodiment combining processing equipment can consist of that it is the simple configuration of [ it is compact and ] a single part configuration which the processing agent constituent kit of this invention thickened. Although the development system which equips with the bottle of each processing agent constituent as the example, carries out automatic unstopping, and performs automatic preparation of a replenisher to below is explained, application of this invention is not limited to this. The outline of the printer processor 10 in which this invention was applied is shown in drawing 1 , and the perspective view of the printer processor 10 is shown in drawing 2 . The photograph printing section 12 which constitutes the printer section of this printer processor 10 has the structure where it can load with the paper magazine 14 with which printing paper P was contained.

[0108] The driving roller 16 around which near the point of printing paper P is wound almost is supported free [ rotation ] at the drawing 1 top of this paper magazine 14, and the upper left side, since the nip roller 18 of a pair is arranged through printing paper P, a driving roller 16 will pinch printing paper P in the location which countered the driving roller 16 among these nip rollers 18, and printing paper P will be sent out to it into the photograph printing section 12.

[0109] Moreover, after the beam of light irradiated from the light source 26 which is outside casing 10A which constitutes the outer frame of the printer processor 10, and is arranged right above [ of easel equipment 64 ] passes CC filter 24, It is crooked being spread with the diffusion box 28, and is sent to directly under, and this beam of light penetrates the negative film N on NEGAKYARIA 30. The beam of light which furthermore penetrated the negative film N and turned into an image Mr. beam of light (image support light) carries out image formation of the image of a negative film N on the printing paper P which passes the zoom lens 38 which can change prism 36 and magnifying power, and is located under easel equipment 64.

[0110] The printing paper P sent out from the paper magazine 14 in the photograph printing section 12 be cut by the cutter 22 , the cut printing paper P be conveyed with the endless belt 44 in the image printing location which be a location on the optical axis line S of the exposure beam of light of the lower part of the easel equipment 64 on susceptor 46 , and printing exposure of the image with which the black shutter 41 be recorded on the negative film N by predetermined time open Lycium chinense be carried out on printing paper P .

[0111] Furthermore, it presses down with a guide roller 56, it is pinched between rollers 58, the conveyance direction is changed perpendicularly horizontally, and the printing paper P which printing exposure of an image ended is sent out perpendicularly. Then, as shown by the path K showing the conveyance path of printing paper P, printing paper P is conveyed to the processor section 72 which performs each processing of development, bleaching, fixing, rinsing, and desiccation through the conveyance way 60 constituted with two or more pairs of rollers.

[0112] The developer is accumulated in the developer tank 74 of the processor sections 72, printing paper P is dipped in this developer, and a development is performed. The printing paper P by which the development was carried out is conveyed to the bleaching tub 76 which adjoins a developer tank 74. Bleach liquor is accumulated in the bleaching tub 76, printing paper P is dipped in this bleach liquor, and bleaching processing is performed. The printing paper P by which bleaching processing was carried out is conveyed to the fixing tub 78 which adjoins the bleaching tub 76. The fixer is accumulated in the fixing tub 78, printing paper P is dipped in this fixer, and fixing processing is performed. The printing paper P by which

fixing processing was carried out is conveyed to two or more rinse tanks 79 with which rinsing water was collected, respectively while it adjoins the fixing tub 78, it dips printing paper P in the rinsing water in a rinse tank, and performs rinsing processing.

[0113] The printing paper P by which rinsing processing was carried out is conveyed to the dryer part 80 located in the upper part of a rinse tank 79. A dryer part 80 exposes printing paper P to the hot blast ventilated along the direction of arrow-head B from the chamber 82 side arranged at the conveyance path bottom of printing paper P, and dries printing paper P. The printing paper P which desiccation processing was completed and was discharged from the dryer part 80 through the conveyance way 84 is discharged in the exterior of the printer processor 10, and is accumulated.

[0114] Moreover, the supplement section is prepared in the processor section 72. It is, automatic unstopping of management of a processing agent kit and a processing agent kit, automatic washing, and desiccation are mainly carried out at the loading section 300, and the loading section 300 by which the supplement section is loaded with a processing agent kit (it mentions later), and the supplement tank part by which a replenisher is managed mainly carry out management of the oil-level level of a supplement tub (it mentions later), supplement pump actuation, and a circulation stirring pump (it mentions later) at a supplement tank part. Moreover, the sensor 73 for detecting the throughput of printing paper P is formed in the inlet port of a developer tank 74.

[0115] In addition, to the above-mentioned developer tank 74, the bleaching tub 76, and the fixing tub 78, it is the system supplemented with a replenisher from the supplement tub installed in the processor section 72. Moreover, although fixing overflow is put into a bleaching tub, it considers as a bleach fix bath or there are various modes, such as replacing a rinse tank with the tub of slurry, this invention does not have that it is applicable to the all until it says it.

[0116] (Processing agent kit) With this operation gestalt, when the replenishers in a supplement tub run short, it is the system which sets to the loading section 300 (refer to drawing 2 ) which formed the processing agent kit 202 shown in drawing 3 in the up transverse-plane side of casing 10A, and pours in a processing agent (water solution condensed with this operation gestalt).

[0117] As shown in drawing 3 , the processing agent kit 202 of this operation gestalt has held the container 207 with which the container 203 with which the development agent was stored by the carton box 204, the container 205 with which the bleaching processing agent was stored, and the fixing processing agent were stored.

[0118] In addition, since containers 203, 205, and 207 are the same structures respectively, they explain structure on behalf of a container 203 below. As shown in drawing 5 , the container 203 is equipped with the screw cap 208 which projects from a carton box 204, and the flange 212 is formed in the screw cap 208. Opening of a container 203 is blockaded with the seal 210 of the resin film inserted between screw caps 208. Moreover, the hole 209 is formed in the center of a screw cap 208, and it is constituted so that a seal 210 may be pushed and it may be torn with the washing nozzle 346.

[0119] this operation gestalt — 1300ml and a container 207 are filled up with a bleaching processing agent, and the container 203 is filled up with 1300ml of fixing processing agents for the development agent at 1300ml and a container 209.

[0120] It becomes the replenisher (5000ml as completion liquid) with which 3700ml of dilution waters is added to 1300ml, and a developer tank 74 is supplemented. moreover, a development agent — It becomes the replenisher (2000ml as completion liquid) with which 700ml of dilution waters is added to 1300ml, and the bleaching tub 76 is supplemented. a bleaching processing agent — a fixing processing agent — it becomes the replenisher (2000ml as completion liquid) with which 700ml of dilution waters is added to 1300ml, and the fixing tub 78 is supplemented.

[0121] (Loading section) As shown in drawing 2 and drawing 3 , the loading section 300 is covered with the loading section covering 302 which can be opened and closed. In addition, the condition of having shut the loading section covering 302 is in the condition shown in drawing 3 as a continuous line, and the condition of having opened the loading section covering 302 completely is in the condition shown in a fictitious outline (two-dot chain line) at drawing 3 . The electrode holder 316 carrying the processing agent kit 202 is formed in the loading section 300.

[0122] As shown in drawing 3 and drawing 5 , under the electrode holder 316 If the washing nozzles 346, 348, and 350 are setting up in opening of containers 203, 205, and 207, and the corresponding location and containers 203, 205, and 207 are caudad moved to them The washing nozzle 346 unstops by the washing nozzle's 348 pushing the seal 210 of a container 205, and the washing nozzle's 350 pushing the seal 210 of a container 207, tearing the seal 210 of a container 203, and advancing into a container.

[0123] as shown in drawing 3 , the funnel 352 which inserted the lower limit in the P1R supplement tub (the



lower part of the funnel of the lower part of drawing 3 — not shown) under the washing nozzle 346 is arranged, the funnel 354 which inserted the lower limit in the P2RA supplement tub under the washing nozzle 348 is arranged, and the funnel 356 which inserted the lower limit in the P2RB supplement tub under the washing nozzle 350 is arranged.

[0124] (Configuration of a processing agent kit and its container) The configurations of the bottle 1300 as containers 203, 205, and 207 for photographic-processing agent kit 202 concerning the gestalt of 1 operation of this invention are explained below to be drawing 6 and drawing 7 based on 8.

[0125] The bottle 1300 is equipped with the body 1302 of a container as shown in drawing 6. The body 1302 of a container is formed in box-like [ in the air ] of resin material. Moreover, the upper limit section of the body 1302 of a container is made into the shape of a taper whose diameter was reduced gradually, and the cylinder-like neck 1306 with which the male screw 1304 was cut by the periphery section is formed. Opening of the upper limit section of this neck 1306 is carried out, and receipts and payments of the replenisher mentioned above through this opening can be performed. Moreover, the polyethylene sheet 1308 as a seal member is arranged at the upper limit section of a neck 1306. The gash of a cross-joint mold is minced and this polyethylene sheet 1308 is formed in the form which tends to be broken through by the \*\*\*\* nozzle shown later.

[0126] Moreover, the bottle 1300 is equipped with the cap 1310 as a holddown member. By being formed in the shape of [ which carried out opening towards the neck 1306 ] a cylinder like object with base, among those the female screw 1318 corresponding to the male screw 1304 formed in the neck 1306 being cut by the periphery, being able to screw to a neck 1306, and screwing to a neck, this cap 1310 presses down the polyethylene sheet 1308 at the pars basilaris ossis occipitalis 1312 of cap 1310, and can fix the polyethylene sheet 1308 to a neck 1306. Moreover, the circular opening 1314 is formed in the pars basilaris ossis occipitalis 1312 of cap 1310, and where cap 1310 is inserted in, the polyethylene sheet 1308 can be punched.

[0127] (Operation of the gestalt of this operation) next, it attaches [ it is alike and ] and explains to an operation of the gestalt of this operation. For example, if the development of the printing paper P is carried out within a developer tank 74, the supplement pump 116 will operate according to this, the development replenisher which was once able to be stored on the supplement tank 112 will be sent to a developer-tank 74 side, and the development replenisher of an amount which was used for processing within a developer tank 74, and deteriorated will be filled up. In addition, these are the same also in a bleach fix bath and stabilization bath liquid. If the oil level within the supplement tank 347 becomes below the specified quantity, a float switch 118 will detect this and directions of supply on the supplement tank 347 of a replenisher will be displayed on a monitor 122.

[0128] Next, the procedure at the time of supplementing the supplement tank 347 with a replenisher is explained. First, the closing motion door 302 of the supplement section 300 is opened (see the two-dot chain line condition of drawing 3 ), the body 1302 of a container is pushed in, inserting the neck 1306 of a bottle 1300 in the hole 170 of the hold section 168, and a bottle 1300 is laid to up to the installation section. When the control device which does not shut and (continuous-line condition of drawing 3 ) illustrate the closing motion door 302 is operated, as a motor drives, and the punching nozzle 188 moves upwards, approaches a bottle 1300 and is shown in drawing 7 and drawing 8 in this condition, the opening 1314 of cap 1310 is penetrated and it contacts to the polyethylene sheet 1308.

[0129] The punching nozzle 188 breaks through the polyethylene sheet 1308, and opening of the polyethylene sheet 1308 is carried out, and if the punching nozzle 188 moves upwards further with the driving force of a motor 328, as shown in drawing 7, the replenishers inside the body 1302 of a container (for example, a development replenisher, a bleaching fixing replenisher or a stabilization replenisher, etc.) will flow, and it will fall from this condition. However, there are few amounts of the replenisher which flows and falls in this condition since the clearance between the punching nozzle 188 and the polyethylene sheet 1308 is small. Moreover, if the punching nozzle 188 moves to the condition by which opening formed in the polyethylene sheet 1308 becomes large gradually, and is show in drawing 8 as the punching nozzle 188 moves upwards since the punching nozzle 188 is make into the approximate circle drill configuration, since a clearance will be form between the polyethylene sheets 1308 and the periphery sections of a pipe 158 which were formed of the rise of the punching nozzle 188, a replenisher flows and falls from the interior of the body 1302 of a container.

[0130] Thus, the replenisher which flowed and fell from the bottle 1300 (body 1302 of a container) is fed into the supplement tank which is not illustrated through the hole 170 formed in the pars basilaris ossis occipitalis 168, the cross valve which is not illustrated, and a pipe. If the bottle 1300 applied to the gestalt of this operation here is applied, an operator will open the closing motion door 302, will set a bottle 1300,



will shut the closing motion door 302, and will only operate a motor 328, and an opening activity and a supplement activity, i.e., the activity which punches the polyethylene sheet 308 and supplements the supplement tank 347 with a replenisher, will be done by the inside of the closed supplement section 300 (namely, each part store 172). It seems that for this reason, the troublesome activity that an operator has a bottle 1300 by hand and fills it up is not needed, but a replenisher moreover disperses in the case of a supplement, and an operator's hand or dress are not soiled.

[0131] Next, in the state of drawing 9, after the inside of the body 1302 of a container flows completely and falls, washing of a bottle 1300 and desiccation are performed. By washing, while switching the cross valve which operates first the control unit which is not illustrated and the above does not illustrate, the wash water conveying pump of the feed pipe section from the wash water flush tank which is not illustrated operates, and the wash water in a wash water flush tank is fed into the punching nozzle 188 with predetermined water pressure through a pipe 186. Thereby, wash water is injected from the stoma 214 of the punching nozzle 188, and the interior of a bottle 1300 is washed. Although the wash water after washing flows and falls from a bottle 1300, in this condition, it is chosen whether a supplement tank is supplied as a dilution water by the cross valve which a pipe 186 does not illustrate, or it connects with a waste water tank and discharge is performed.

[0132] Subsequently, after washing of predetermined conditions (for example, predetermined time) is completed, while a pump 198 is suspended, a cross valve is switched and the closedown of the exhaust port is carried out. Furthermore, in this condition, the dryer part and fan who do not illustrate operate, a desiccation wind is guided to a fan from a dryer part, and a desiccation wind is further sent into the punching nozzle 188 through a pipe and a cross valve from a fan. Thereby, a desiccation wind blows off from the stoma 214 of the punching nozzle 188, and the interior of a bottle 1300 is dried.

[0133] After these washing and desiccation are completed, the bottle 1300 which opened the closing motion door 302 and became empty is taken out, and it is exchanged for another new bottle 1300, but from this condition, since the interior of a bottle 1300 is washed and it is moreover dry, in case the empty bottle 1300 is taken out, neither a hand nor dress becomes dirty with an excessive replenisher etc.

[0134] Furthermore, although recycled, in this case, cap 1310 is removed from the neck 1306 of the body 1302 of a container, the polyethylene sheet 1308 and packing 1316 are removed and the taken-out empty bottle 1300 is further collected by type for every quality of the material. Here, the body 1302 of a container, cap 1310, the polyethylene sheet 1308, and packing 1316 are used as another soma article with which each became independent, and are stuck to the polyethylene sheet 1308 which attaches these through packing 1316 to the neck 1306 of the body 1302 of a container. Therefore, by removing cap 1310 from the body 1302 of a container, the polyethylene sheet 1308 and each part article of packing 1316 are removed easily, and it can dissociate. And since it does not tear and remain like [ in the case of having fixed the polyethylene sheet 1308 directly to the neck 1306 ] in case the polyethylene sheet 1308 is removed, an activity man day is mitigable.

[0135] In addition, with the gestalt of this operation, although the bottle 1300 was carried out to the supplement of the development replenisher for printer processor 10, a bleaching fixing replenisher, and slurry, you may use it for the liquid supplement of other development systems other than printer processor 10.

[0136] Moreover, with the gestalt of this operation, although it has the thickness which does not cause degradation of the processing agent constituent by transparency of air into the reserve time of a bottle, the polyethylene sheet 1308 with a cross gash as a seal member is formed so that a cross gash may be easily broken by the nozzle.

[0137] The color photography sensitive material which is the candidate for application of the development approach which uses the processing agent constituent kit of this invention is explained. The approach of this invention is applicable to a general color photography sensitive material regardless of the object for photography, and the object for a print. That is, it can \*\* in any development of a negative color film, a color reversal film, and color printing paper, and can apply to the object for the object for general, and movies, and all for professional. The effectiveness of application to the development of the color printing paper in which especially white whiteness is thought as important is large.

[0138] As for the photosensitive silver halide emulsion in the sensitive material as positive ingredients, such as a color paper, it is desirable to consist of a silver halide particle in which the remainder is a silver bromide at at least 95-mol %, and silver chloride content does not contain silver iodide substantially. "silver iodide not being included substantially" here — silver iodide content — less than [ 1 mol % ] — desirable — less than [ 0.2 mol % ] — zero-mol % is meant still more preferably. Moreover, silver chloride content has [ especially the above-mentioned silver halide emulsion ] a desirable silver halide emulsion beyond 98 mol %

from a viewpoint of quick processability. It is desirable especially from high sensitivity being obtained for what has a silver-bromide localization phase on the front face of a silver chloride particle, and moreover being able to attain stabilization of the photograph engine performance also in such a silver halide.

[0139] The silver halide photographic emulsion which can be used for this invention For example, research disclosure No.17643 (December, 1978), 22-23 pages, "I. emulsion manufacture (Emulsion preparation and types)", (It abbreviates to RD hereafter) and -- said -- No.18716 (November, 1979) and 648 pages -- said -- No.307105 (1989II moons) -- Physics of a photograph, and 863-865-page and "chemistry" pole MONTERU Co. \*\* written by Glafkides (P. Paul Montel [ Glafkides, Chemie et Phisique Photographique and ]) 1967, the Duffin work "photographic-emulsion chemistry", the Focal Press Co. \*\* (G. F.Duffin, Photographic Emulsion Chemistry, Focal Press, 1966), The approach indicated by manufacture of a photographic emulsion, "spreading" Focal Press Co. \*\* written by ZERIGUMAN (V. L.Zelikman, et al., Making and Coating Photographic Emulsion, Focal Press, 1964), etc. It can use and prepare.

[0140] The material for photographs and additive of \*\*\*\* can be conventionally used for the object for a print and the silver halide photosensitive material for photography which are set as the object of this invention. For example, as a base material for photographs, a transparency mold base material and a reflective mold base material can be used. As a transparency mold base material, film base materials, such as bright films, such as a nitrocellulose film and polyethylene terephthalate, further 2, 6-naphthalene dicarboxylic acid (NDCA), polyester with ethylene glycol (EG), and polyester of NDCA, a terephthalic acid, and EG, are used, and there are some which prepared information record layers, such as a magnetic layer, in these base materials. for the purpose of this invention, a reflective mold base material is desirable and the reflective base material which it laminates in two or more polyethylene layers and polyester layers, and such a waterproof resin layer (lamination layer) is further alike at least, and contains white pigments, such as titanium oxide, especially is desirable.

[0141] Furthermore, it is desirable to contain a fluorescent brightener in the aforementioned waterproof resin layer. Moreover, a fluorescent brightener may be distributed in the hydrophilic colloid layer of a sensitized material. As a fluorescent brightener, preferably, a benzo oxazole system, a coumarin system, and a pyrazoline system can use, and it is the fluorescent brightener of a benzoxazolyl naphthalene system and a benzoxazolyl stilbene system still more preferably. Although especially the amount used is not limited, it is 1 - 100 mg/m<sup>2</sup> preferably. The mixing ratio in the case of mixing to waterproof resin is 0.0005 - 3 % of the weight to resin preferably, and is 0.001 - 0.5 % of the weight still more preferably. What painted the hydrophilic colloid layer containing white pigments on the body may be used. Moreover, a reflective mold base material may be a base material with the surface of metal of specular reflection nature or the 2nd sort diffuse reflection nature. In the sensitive material concerning this invention, in order to raise the sharpness of an image etc. in a hydrophilic colloid layer Europe patent EP 0,337,490A2 To the 27-76th page of a number specification, a publication, So that optical reflection density [ in / for the color (even inside oxo-Norian system color) which can be decolorized by processing / 680nm of this sensitive material ] may become 0.70 or more add or It is desirable to carry out content of the titanium oxide by which surface preparation was carried out with the alcohols (for example, trimethylolethane) of 2 - tetravalence etc. into the waterproof resin layer of a base material 12% of the weight or more (preferably 14 % of the weight or more).

[0142] Moreover, in order to prevent various kinds of mold and bacteria which it breeds [ bacteria ] in a hydrophilic colloid layer and degrade an image in the sensitive material concerning this invention, it is desirable to add an antifungal agent like a publication to JP,63-271247,A.

[0143] Even if the sensitive material concerning this invention is exposed by the light, it may be exposed by infrared light. As the exposure approach, low illuminance exposure or high illuminance short-time exposure is sufficient, and, especially in the case of the latter, a laser scan exposure method with the exposure time shorter than 10 to 4 seconds per pixel is desirable.

[0144] As the approach applied in order to process this sensitive material in the silver halide emulsion applied to the sensitive material concerning this invention, other materials (additive etc.) and photograph configuration layers (layer arrangement etc.), and a list, or an additive for processing, it is the Europe patent EP 0,355,660A2. What was mentioned to the thing indicated by the specification of a number, JP,2-33144,A, and JP,62-215272,A or the next table 1 is used preferably.

[0145]

[Table 1]

(表1)

添加剤の種類	RD17643	RD18716	RD307105
1. 化学増感剤	23頁	648頁右欄	866頁
2. 感度上昇剤		648頁右欄	
3. 分光増感剤	23～24頁	648頁右欄	866～868頁
強色増感剤		～ 649頁右欄	
4. 増白剤	24頁	647頁右欄	868頁
5. 光吸収剤、	25～26頁	649頁右欄	873頁
フィルター		～ 650頁左欄	
染料、紫外			
線吸収剤			
6. バインダー	26頁	651頁左欄	873～874頁
7. 可塑剤、	27頁	650頁右欄	876頁
潤滑剤			
8. 塗布助剤、	26～27頁	650頁右欄	875～876頁
表面活性剤			
9. スタチック	27頁	650頁右欄	876～877頁
防止剤			
10. マット剤			878～879頁

[0146] Application to the development of the silver halide color photography sensitive material which contains the pyrrolo triazole derivative of a publication as a cyan coupler especially in official reports, such as JP,5-150423,A, 5-255333, 5-202004, 7-048376, and 9-189988, is effective. The cyanogen coloring matter obtained from a pyrrolo triazole derivative has the outstanding hue, but on the other hand it has the fault which is easy to produce color mixture and a stain, and tends to receive the effect of the stability of a developer with the passage of time. The color development agent constituent of this invention has an advantage of a pile in a lifting in color mixture or a stain, when a pyrrolo triazole derivative is applied to the development of color photography sensitive material made into a cyan coupler. However, the sensitive material which, of course, contained cyan couplers other than a pyrrolo triazole mold coupler can also apply the approach of this invention. cyanogen, a Magenta, or a yellow coupler — the above — it is desirable to infiltrate a loader bull latex polymer (for example, U.S. Pat. No. 4,203,716) under existence of the high-boiling point organic solvent of a publication among a table (or under un-existing), or to melt with the polymer of water-insoluble nature and organic solvent fusibility, and to make a hydrophilic colloid water solution carry out emulsification distribution. As for the polymer of desirable water-insoluble nature and organic solvent fusibility, the homopolymer or copolymer of a 12th page - 30 pages publication of the 7th column of a U.S. Pat. No. 4,857,449 specification - 15 column and the international public presentation WO 88/No. 00723 specification is mentioned. A methacrylate system or an acrylamide system polymer is desirable especially on color image stability etc.

[0147] It is desirable to use together a color image shelf-life amelioration compound like a publication on the Europe patent EP 0,277,589A No. 2 specifications with a pyrazoloazole coupler, and the above-mentioned pyrrolo triazole coupler and an acyl acetamide mold yellow coupler in the sensitive material for [ of this invention ] application.

[0148] Moreover, it is good even if the cyan coupler of a publication uses [ JP,2-33144,A, the Europe patent EP 0333185A No. 2, JP,64-32260,A, the Europe patent EP 0456226A No. 1 specification, the Europe patent EP No. 0484909, the Europe patent EP No. 0488248 specification, and EP / 0491197A No. 1 ] it for everything but a phenol mold coupler which was indicated by the well-known reference of the aforementioned table, or a naphthol mold coupler as a cyan coupler.

[0149] As a Magenta coupler used for this invention, the international public presentation WO 92/No. 18901 and a this WO 92/No. 18902 and this WO [ 92/No. 18903 ] publication in everything but 5-pyrazolone system Magenta coupler which was indicated by the well-known reference of the aforementioned table thing is also desirable. although a well-known pyrazoloazole mold coupler is used for this invention besides these 5-pyrazolone Magenta couplers — inside — points, such as a hue, image stability, and color enhancement, — JP,61-65245,A, JP,61-65246,A, JP,61-14254,A, and the Europe patent 226,849th — No. A — said — the 294,785th — use of the pyrazoloazole coupler of a publication is [ of No. A ] desirable.

[0150] although a well-known acyl acetanilide mold coupler is preferably used as a yellow coupler — inside — Europe patent EP0447969A No., JP,5-107701,A, JP,5-113642,A, and Europe patent EP-0482552A No. — said — the coupler of a publication is preferably used for EP-0524540A No. etc.

[0151] As additives other than a coupler, the following are desirable. Dispersion medium of an oil solubility organic compound : P-3 of JP,62-215272,A, 5, 16, 19, 25, 30, 42, 49, 54, 55, 66, 81, 85, 86, 93 (140-144 pages); Given in latex:US4,199,363 for sinking in of oil solubility organic compound latex; developing-agent oxidant scavenger: — the compound (especially — I- and (1) —) expressed with the formula of 54-62 lines of the column 2 of US4,978,606 (I) formula of 5-10 lines of (2), (12) and (columns 4-5), and the column 2 of US4,923,787 (6 ((III) especially — compound 1(column 3); stain inhibitor: — 4-page type [ of 30-33 lines ] (I) — of EP298321A —), especially — I- 47, 72, III-I, A-6 of 27(24-48 pages); tenebrescence inhibitor:EP298321A, and 7, 20, 21, 23, 24, 25, 26, 30, 37, 40, 42, 48, 63, 90, 92 and 94,164 (69-118 pages) — 42; II-1-III-23 of the columns 25-38 of US5,122,444 — especially — III-10 and I-1-III-4 [ 8-12-page ] of EP471347A — especially — II-2 and A-1-48 of the columns 32-40 of US5,139,931 — especially — A-39 — I-1-II-15 [ 5-24-page ] of material:EP411324A which reduces the amount of a coloring enhancement agent or the color mixture inhibitor used, especially I-46; SCV-1-28 [ 24-29-page ] of formalin scavenger:EP477932A, especially SCV-8;

[0152] Color : a-1 to b-20 [ 15-18-page ] of JP,3-156450,A — especially — a-1, 12, 18, 27, 35 and 36, b-5, and V-1-23 [ 27-29-page ] — especially — 33-55-page F-I -1 of V-1 and EP445627A - F-II -43 — especially — F-I -11 and F-II -8 — formula (1) of Compound I and EP519306A III-1-36 [ 17-28-page ] of EP457153A — especially — III- 1, 3, the microcrystal dispersing element [ of 8-26 ] of Dye-1-124 of WO 88/04794, and the 6-11-page compounds 1-22 of EP319999A — especially Or compound D-1-87 (3-28 pages) expressed with (3), the compounds 1-22 (columns 3-10) expressed with the formula (I) of US4,268,622, The compound (1) expressed with the formula (I) of US4,923,788 - a (31) (columns 2-9);UV absorbent : Compound (18b) - expressed with the formula (1) of JP,46-3335,A (18r), Compound HBT-1-10 expressed with compound (3) - (66) (10-44 pages) and the formula (III) which are expressed with the formula (I) of 101-427 (6-9 pages), and EP520938A (14 pages), Compound (1) - expressed with the formula (1) of EP521823A (31) (column 2-9).

[0153] This invention is applicable to the object for general, or the general-purpose negative color film for movies. Moreover, it is suitable for the disposable camera units indicated by JP,2-32615,B and JP,3-39784,Y. the suitable base material which can be used for this invention — for example, the above-mentioned 28 pages of RD.No.17643 — said — the 648-page left column from the 647-page right column of No.18716 — and — said — although indicated by 879 pages of No.307105, it is desirable to use a polyester base material.

[0154]

[Example] Hereafter, although an example explains the mode and effectiveness of this invention further, this invention is not limited to this.

[0155] The plastics bottle was fabricated as follows as a shaping development agent constituent container of an example-11. container and a container. That is, after [ injection ] hollow blow molding of the body part of a bottle is carried out, it is manufactured, and after carrying out injection molding of the cap part, it made the opening part of a cap carry out heat adhesion of the sheet.

— The body of a configuration bottle is a prism form of appearance 77mmx77mmx301mmH shown in drawing 9, and is a container which prepares the circular regio oralis of 30mmphi in the upper part of the pillar-shaped section, and has been extracted from the upper limit of the pillar-shaped section to the regio oralis, covering. The content volume is 1400ml and the fill of a solution is 1300ml.

— The body of a quality-of-the-material container : use high density polyethylene B161 (consistency 0.956) (Asahi Chemical Industry Co., Ltd. make).

Cap: Use high-density-polyethylene J751A (consistency 0.952) (Asahi Chemical Industry Co., Ltd. make).

[0156] — Average thickness for a wall of a container, such as thickness, an oxygen transmission rate, etc. of a container, is 0.5mm, and was filled up with 1300ml of each processing agent constituent into this. The oxygen transmission rate of a container and the amount of oxygen transparency per 1l. of constituents with which it was filled up are each. They are 9.0ml/(24hr.atm) and 6.9 ml/(24hr.atm.l).

[0157] In addition, the measuring method of an oxygen transmission rate is as follows. Namely, nitrogen gas was enclosed in the container, the cap was shut, and after placing for 24 hours into the pure oxygen adjusted to 25-degreeC, 50%RH (relative humidity), and one atmospheric pressure, the amount of oxygen transparency was computed by having measured the oxygen density in a container by the gas chromatograph by having used TCD (heat-conduction type detector) as the detector.

2. Prepare each kit as shown in the table of the production following of a processing agent kit, and it is the

cartridge (202) of corrugated paper (fixing agent PERT also making it a set). The kit with which it loaded every (the color development, a bleaching agent, fixing agent) one each was assembled.

(1) The amount of water for the dissolution was adjusted and prepared so that it might become the concentration rate which showed the following criteria formula, respectively as preparation color development agent constituents A, B, D, E, and F of a color development agent constituent (color development agent PERT). Moreover, Sample C was prepared according to the specification expressed below.

[Note] Although the processing liquid : Done was not necessarily condensed and is thickly prepared from the start about concentration liquid and a concentration rate, suppose that vocabulary, such as concentration liquid and a concentration rate, is used according to common use of this industry.

(Criteria formula)

Tri-isopropanolamine 8.0g KOH 3.0g NaOH 5.9g Ethylenediaminetetraacetic acid 4.0g A catechol -2, 5-disulfon acid disodium 1g Sodium sulfite 0.3g Polyethylene glycol 300 10.0g Diaminostilbene compound BlankophorBSU-PN (Bayer make) 24.0g Diaminostilbene compound HAKKORU BRK (product made from Showa Chemistry) 2.0g Disodium-N and N-screw (sulfonate ethyl)

A hydroxylamine 12.0g 4-amino-3-methyl-N-ethyl-N-(beta-methane sulfo amide ethyl) anilines 3/2 Sulfate 14.5g Potassium carbonate 28.0g Water is added. 1000mL pH 12.6 (enrichment factor of each sample)

Enrichment factor: A= 2.8 times (specific gravity = 1.133)

B= 3.2 times (specific gravity = 1.152)

D= 3.8 times (specific gravity = 1.183)

E= 6.0 times (specific gravity = 1.298)

F= 7.3 times (specific gravity = 1.350)

It is potassium carbonate to what condensed the C= above-mentioned criteria formula 2.8 times. Developer constituent added l. 30g / (specific gravity = 1.152)

(2) The amount of water for the dissolution was adjusted and prepared so that it might become the concentration rate which showed the following criteria formula, respectively as preparation bleaching agent content constituent samples a, b, d, e, and f of a bleaching agent content constituent (bleaching agent PERT). Moreover, Sample C was prepared according to the specification expressed below.

(Criteria formula)

A nitric acid (67%) 70.0g Imidazole 60.0g Ethylenediaminetetraacetic acid 6.5g The second iron of ethylenediaminetetraacetic acid, ammonium, and 2 monohydrate 170 g m-carboxy benzenesulfinic acid 33.0g 1, 2-benzo iso thiazoline-3-ON 0.1g Aqueous ammonia (27%) 27.0g Water is added. 1000mL pH 6.0 (enrichment factor of each sample)

Enrichment factor: a= 1.15 times (specific gravity = 1.135)

b= 1.25 times (specific gravity = 1.152)

d= 1.5 Twice (specific gravity = 1.185)

e= 2.5 Twice (specific gravity = 1.295)

f= 2.8 Twice (specific gravity = 1.340)

It is an ammonium nitrate to what condensed the c= above-mentioned developer 1.15 times. 26g [/l.] addition (specific gravity = 1.153)

(3) As a preparation fixing agent content constituent sample of a fixing agent content constituent (fixing agent PERT), the 1.5 time concentration liquid (specific gravity = 1.285) of the following criteria formula was adjusted.

(Criteria formula)

Ammonium thiosulfate (750g/(l.)) 430 mL Ethylenediaminetetraacetic acid 5.0g Heavy ammonium sulfite liquid (70%) 200 g Aqueous ammonia (27%) 20 g Water is added. 1000mL(s) pH Each of the developer constituent of A-F of the assembly above of 5.5 (4) kits, the bleaching agent content constituent of a-f, and a fixing agent content constituent It combined, as shown in the following table 2, and it loaded with every (the color development, a bleaching agent, fixing agent) one each at the cartridge (it is indicated in drawing 3 as 202) of corrugated paper, and the kit was produced.

3. The color paper sample (FUJIKARA paper SUPER[ by Fuji Photo Film Co., Ltd. ] FA9) was used for the trial as the sensitive material and the development approach sensitive material for a trial. Moreover, especially the part that does not describe a development, either examined according to the development process specification shown in the tail of this example, and the processing formula.

4. the operative condition which loads said auto-processor carried out into the text, and performs a development using that to which the passage of time of the test-method (1) approach above-mentioned kit

was carried out for 40-degree-C three months, and the kit which newly prepared — it processed by preparing each tank liquid according to technique [ like ].

(2) A part for each concentration rate was diluted for preparation each processing agent constituent PERT of processing liquid with water, and the replenisher was prepared. Moreover, tank liquid (mother liquor) was prepared and thrown into the processing tub in a developing machine (tank) according to the following.

— Dilute a part for the concentration rate of coloring developer each kit with water. The following starter is added to this diluent 300mL 100 mLs, water is added, and it is referred to as 1000mL(s). A formula of a starter Potassium carbonate 60 g Sodium bicarbonate 76 g A diethylenetriamine pentaacetic acid 6 g A sodium sulfite 1 g A potassium bromide 0.35g Potassium chloride 80 g Water is added. A condensed part is diluted with water, respectively about 1000mL and bleach fix bath each bleaching agent PERT dark \*\*\*\*\* fixing agent PERT. next, bleaching agent PERT: — fixing agent PERT: — it mixes by water =1:1:2 (volume ratio), and considers as a used solution.

— Rinsing water deionized water He is X light concentration meter (based on international British Standard ISO 5-3) about the vision concentration (based on international British Standard ISO 5-4) of the unexposed section of the sensitized material sample which carried out the development, using respectively the processing liquid from what carried out the heating passage of time to the processing liquid from the constituent made from use (3) measurement new. It measures. It passed from the measured value of the sample made from new, and a heating passage-of-time sample, and passed with this value in quest of the increment in concentration by the time, and the Tokiyasu quality was evaluated. In addition, the concentration value of the maximum-density section (Dmax) part of a neutral (all three colors are colored) color was also used for evaluation of the stability of a bleaching agent content constituent with the passage of time.

4. The increment value of the vision concentration of the unexposed section under heating passage-of-time trial obtained the result was shown in Table 2. Within the limit enclosed with the double line is the range of this invention among Table 2 (in addition, there is "an increment in vision concentration" among Table 2 with "an increment in visual concentration"). Within the limits of this invention, it was shown that the increment in concentration is stable enough [ practical ] very few. The increment in vision concentration by this test method is 0.03, and the practical limit of stability has not reached this criterion in the example of a comparison of this invention out of range. Moreover, it was shown that break 2.10 which is normal values also when the values of the maximum-density section of the sample which carried out the passage of time when the bleaching agent content constituent f was used are any of color development agent constituent A-F, and are between 1.85-2.05, the bleaching fixing agent carried out reduction degradation, and oxidizing power declined. In addition, the maximum-density value was represented with blue filter light concentration (DmaxB) according to the custom.

[0158]

[Table 2]

(表 2)

ビジュアル濃度 増加			発色現像液組成物					
			A	B	C	D	E	F
比重			1.133	1.152	1.152	1.183	1.298	1.350
漂白剤組成物	a	1.135	0.050	0.032	0.032	0.028	0.032	0.089
	b	1.152	0.045	0.009	0.009	0.005	0.005	0.080
	c	1.153	0.044	0.009	0.008	0.005	0.006	0.078
	d	1.185	0.045	0.007	0.007	0.003	0.004	0.066
	e	1.295	0.055	0.012	0.013	0.007	0.007	0.088
	f	1.340	0.085	0.072	0.072	0.071	0.078	0.092



内が本発明

[0159] Example -2 this example shows the example which examined the effect of the container with which oxygen transmission rates differ.

1. Except having changed the thickness of a container container as follows, it is the container (the same thing as amount of oxygen transparency 6.9 ml/(24hr.atm.l) was used.) which used the quality of the



material, a configuration, and magnitude in the example 1. Container number Average thickness Oxygen transmission rate of a container The amount of oxygen transparency of per packing 1L (mm) ml/(24hr.atm) ml/(24hr.atm.l) 1 0.2 24.0 18.5 2 0.3 16.3 12.5 3 0.5 9.0 6.9 4 0.7 5.7 4.4 5 0.9 4.9 3.8 [0160] 2. As the color development agent constituent and bleaching agent content constituent preparation of a color development agent constituent and for the production trial of a kit, the constituent same also to a fixing agent content constituent as an example 1 was prepared for D and d of an example 1, respectively. These were unified and included in the kit like the example 1.

3. In addition, according to the same trial technique as an example 1, the stability of a constituent was altogether evaluated except the above.

4. The increment value of the vision concentration of the unexposed section under heating passage-of-time trial obtained the result and the blue filter light concentration value of the maximum-density section were shown in Table 3. When the oxygen transmission rate per 1l. of constituents has the constituent of this invention in the range of 4-13 There are also few increment values of the vision concentration of the unexposed section, and the blue filter light concentration (DmaxB) of the maximum-density section is also normal, and are stable, With the container 1 whose oxygen transmission rate is below the minimum of the range of this invention, it is a stain (DminB). With the container 5 which increases and exceeds an upper limit, it is a maximum-density value (DmaxB). Falling was shown.

[0161]

[Table 3]

(表 3)

容器番号	平均厚み (mm)	未露光部濃度 (Dmin <sub>B</sub> )	最高濃度 (Dmax <sub>B</sub> )	備考
1	0.2	0.019	2.10	本発明例
2	0.3	0.009	2.10	本発明の好ましい態様
3	0.5	0.008	2.10	同上
4	0.7	0.008	2.10	同上
5	0.9	0.008	2.05	本発明例

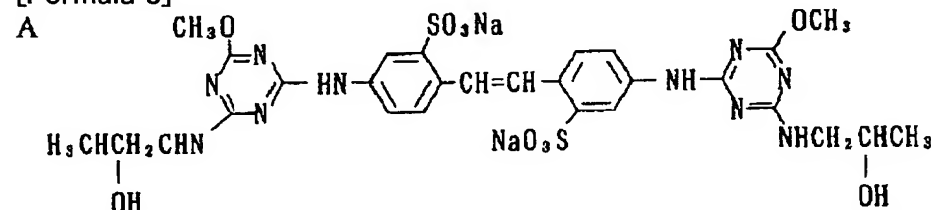
[0162] Example -3 this example shows the example which adjusted specific gravity in the range of this invention with the amount of the mineral salt of an addition component about the case of a color development agent constituent.

1. The same thing as what was used for the example 1 was used for the container container.

2. Criteria Formula of Preparation (1) Color-Development Agent Constituent of Processing Agent Constituent Fluorescent Brightener A (Following) 12.0 G Fluorescent Brightener B (Following) 12.0 G Dimethylpolysiloxane System Surfactant 0.35G (Silicone KF351A / made in Shin-Etsu Chemical Co., Ltd.) Ethylenediaminetetraacetic acid 15.0 g Disodium - N, N - Screw (sulfonate ethyl) hydroxylamine 30.0 g Tori (isopropanol) amine 30.0 g Potassium hydroxide 18.5 g Sodium hydroxide 24.0 g Sodium sulfite 0.60g Potassium bromide 0.04g Polyethylene glycol 400 30.0 g 4-amino-3-methyl-N - An ethyl-N-(beta-methane sulfo amide ethyl) aniline -3-/disulfuric acid monohydrate and a mono-hydrate 60.0 g Potassium carbonate 100.0 g Potassium acetate Refer to Table 4. pH 13.0 Water is added and it is the whole quantity. 1.3 Liter

[0163]

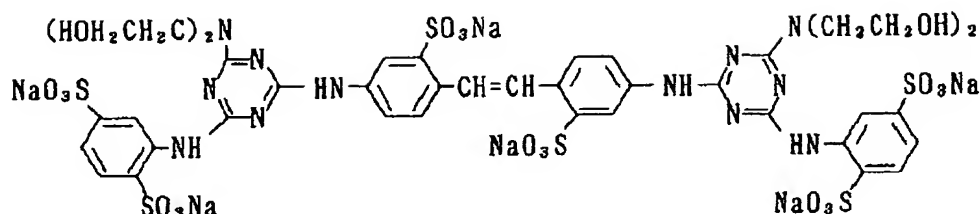
[Formula 8]



[0164]

[Formula 9]

B



[0165]

[Table 4]

(表4)

試料番号	①	②	③	④	⑤
酢酸カリウム(g/リットル)	0	16	55	159	237
比重	1.138	1.150	1.180	1.260	1.320
保恒剤残存率(%)	73	90	92	89	72
液状	褐色 (強い)	微黄色 (透明)	微黄色 (透明)	微黄色 (透明)	異油状の 浮遊物
備考	比較例	本発明	本発明	本発明	比較例

[0166] In Table 4, sample \*\* does not add potassium acetate, but the specific gravity value specified by this invention is out of range, and the specific gravity value is increasing other samples according to the amount of the added potassium acetate.

[0167] (2) The formula bleaching agent content constituent and fixing agent content constituent of a bleaching fixing agent are the same as what was used for the example 2.

[0168] 3. Fill Up HDPE Container of Container Number 3 with Every 1300MI Each of Five Kinds of Constituents Stated to Test above 2 of Color Development Agent Constituent with which it Filled Up with the Passage of Time. It saves three months each in a constant humidity chamber. the example 1 after shutting the cap of a container — the same — 40-degreeC — the constant temperature of 60% of relative humidity RH — Disodium of each color development agent constituent sample in a retention period — N, N — The survival rate over initial concentration was computed by having measured concentration change of a screw (sulfonate ethyl) hydroxylamine by the high-speed liquid chromatograph. The preservatives survival rate of each sample is also shown in Table 4. Disodium — N, N — Screw (sulfonate ethyl) hydroxylamines are the preservatives of this constituent, and it is shown that that a survival rate is high has little degradation of the color development agent constituent under preservation. In this test condition, it is judged that it has the preservation stability which can use 85% or more of survival rates.

[0169] 4. Although a survival rate is 85% or more and each sample by which the specific gravity value of a result constituent goes into the field of this invention showed sufficient preservation stability, \*\* with specific gravity higher than the upper limit of this range and \*\* with specific gravity lower than a minimum have not reached the usable level whose survival rate is 85%.

[0170] Example -4 this example shows the effectiveness of an addition component with desirable adding further to the color development constituent of this invention.

1. As a container which satisfies the requirements for container this invention, it is the container (oxygen transmission rate 6.9 ml/(24hr.atm.l) was used.) of an example 1.

[0171] 2. preparation of a color development agent constituent — the color development agent constituent of a formula shown below was prepared.

[A formula of the color development agent constituent used for the trial]

Fluorescent brightener A (it indicates in the example 3) 12.0 g Fluorescent brightener B (it indicates in the example 3) 12.0 g Dimethylpolysiloxane system surfactant 0.35g (silicone KF351A / made in Shin-Etsu Chemical Co., Ltd.)

Ethylenediaminetetraacetic acid 15.0 g Disodium — N, N — Screw (sulfonate ethyl) Hydroxylamine 30.0 g Alkanolamine Refer to Table 5. Potassium hydroxide 18.5 g Sodium hydroxide 24.0 g Sodium sulfite 0.60g Potassium bromide 0.04g Polyethylene glycol Refer to Table 5. 4-amino-3-methyl-N-ethyl-N - ( ) [ beta-methane sulfo ] Amide ethyl aniline -3-/disulfuric acid monohydrate and mono-hydrate 60.0 g Potassium carbonate 100.0 g pH 13.0 Water is added and it is the whole quantity. 1 Liter [0172]

[Table 5]

(表5)

試料番号	添加物		経時安定性	
	化合物	(g/100g)	保存剤 残存率(%)	白地部濃度増加 ( $\Delta D_5$ )
⑥	—	—	85	0.01
⑦	トリイソプロパノールアミン	(30)	91	0.003
⑧	ジエタノールアミン	(30)	89	0.005
⑨	ポリエチレングリコール 分子量100	(30)	87	0.007
⑩	同上 分子量400	(30)	89	0.005
⑪	同上 分子量1500	(30)	88	0.008
⑫	トリイソプロパノールアミン (ポリエチレングリコール 分子量400)	(30)	92	0.001

[0173] In Table 5, sample \*\* is a formula which does not contain all the addition compounds of a publication all over Table 5 in the above-mentioned formula, and sample (7) - (12) adds an additive given in Table 5 to this formula.

[0174] 3. Fill Up HDPE Container of Container Number 3 with Every 1300ML Each of Seven Kinds of Constituents of Test Report 5 of Color Development Agent Constituent with which it Filled Up with the Passage of Time. It saves six months each in a constant humidity chamber. the example 1 after shutting the cap of a container — the same — 30-degreeC — the constant temperature of 60% of relative humidity RH — Disodium of each color development agent constituent in a retention period - N, N - The survival rate over initial concentration was computed by having measured concentration change of a screw (sulfonate ethyl) hydroxylamine by the high-speed liquid chromatograph. The preservatives survival rate of each sample is also shown in Table 5.

[0175] 4. The development followed down stream processing shown later, using a color paper sample (FUJIKARA paper SUPER[ by Fuji Photo Film Co., Ltd. ] FA9) as a photograph sex-test sensitive material. While diluting each of color development agent constituent (6) - (12) 4 times with water, preparing the replenisher in the developer and performing 25% of water dilution to this further, 10g of sodium chlorides and L were added, pH was adjusted to 10.2 with the sulfuric acid, and the developer was prepared, and negatives were developed, filling up the replenisher which fills each developer to the developer tank of the small developing machine for an experiment, and corresponds at it. This also performed the development according to the development approach shown later. Evaluation of a photograph property was performed by developing negatives, respectively with the developer prepared by the constituent sample which carried out the passage of time to the developer made from the constituent before the trial of color development agent constituent (6) - (12) with the passage of time, and investigating change of the photograph nature under trial with the passage of time. The change value of the white stain in the passage of time, i.e., the change value of the blue filter light reflex concentration value (it abbreviates to Db) of the unexposed section, was used as a standard of the stability of a photograph property.

[0176] 5. The result test result was also collectively shown in Table 5. A preservatives survival rate is 85% or more, and the increment in a white concentration value is also 0.01 or less, and each sample fulfills practical use conditions. In addition, the practical limit of the increment in the white concentration value in this test condition is 0.03. It was shown by addition of alkanolamine and a polyethylene glycol by the comparison with sample \*\* that effectiveness increased further that a constituent is further stable and by using combining them. Moreover, it was shown that tri-isopropanolamine is excellent in alkanolamine and the thing of molecular weight 400 is also excellent in a polyethylene glycol.

[0177] [The development approach]

Down stream processing \*\* Whenever At the time Between Amount of supplements \* Color development 38.5 degrees C 45 seconds 45ml bleaching fixing 38.0 degrees C 45 seconds 35ml rinse (1) 38.0 degrees C 20 seconds - Rinse (2) 38.0 degrees C 20 seconds - rinse (3) \*\*38.0 degree C 20 seconds - rinse (4) \*\*38.0 degree C 20 seconds 121ml desiccation 80 \*\* 30 seconds (notes)

\* Sensitive-material 1m2 per — a supplement — a rinse (3) is equipped with rinse cleaning system RCby amount \*\* Fuji Photo Film Co., Ltd.50D, a rinse is taken out from a rinse (3), and it sends to a reverse osmosis module (RC50D) with a pump. The permeated water obtained by this tub is supplied to a rinse (4), and retentate is returned to a rinse (3). The water permeate flow to a reverse osmosis module is 50-300ml.

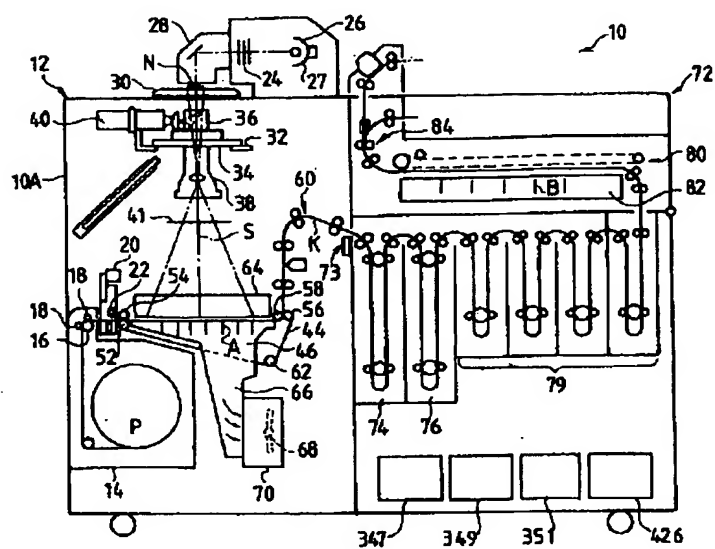
Pumping pressure was prepared and temperature control circulation was carried out for 10 hours on the 1st so that a part for /might be maintained. The rinse was made into 4 tank counterflow method from (1) to (4).

[0178]

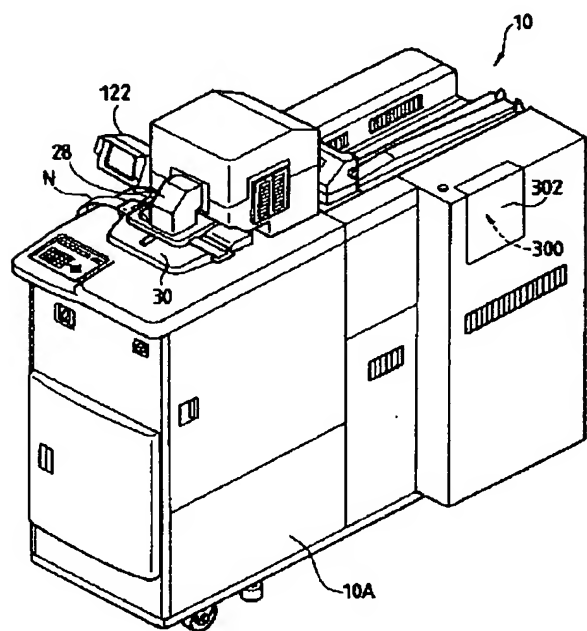
[Effect of the Invention] It is incorporable into the kit which the class product filled up with and united with the common single component container in the practical sufficiently stable condition the specific gravity value of the color development agent constituent of 1 agent configuration, and a bleaching agent content constituent, and by adjusting in the respectively fixed range with the bleaching agent concentration value of a bleaching agent content constituent further. Therefore, in respect of environmental preservation, playback use of a container can be possible, a development working plane can also be simple for preparation of a processing agent constituent to a replenisher, handling nature can be good, and it can be made to maintain at stability also in respect of the photograph engine performance. Moreover, the stability of a developer constituent increases further by adding the alkanolamine of polyalkylene glycols, such as a polyethylene glycol, and a general formula (A) in a constituent.

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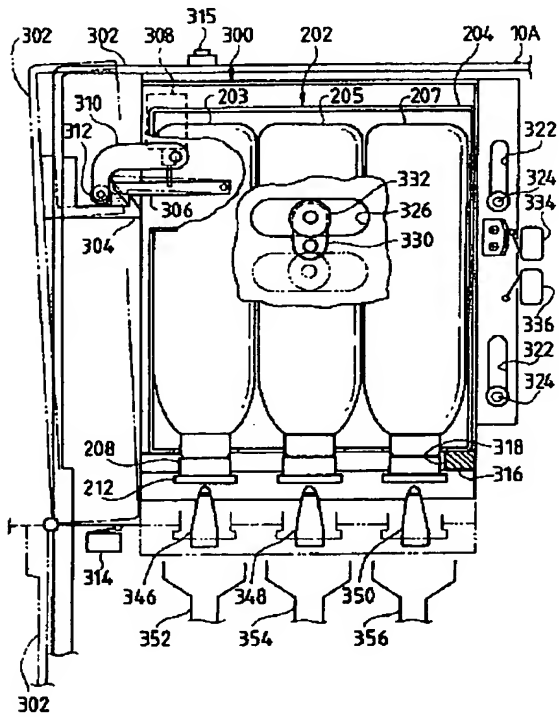
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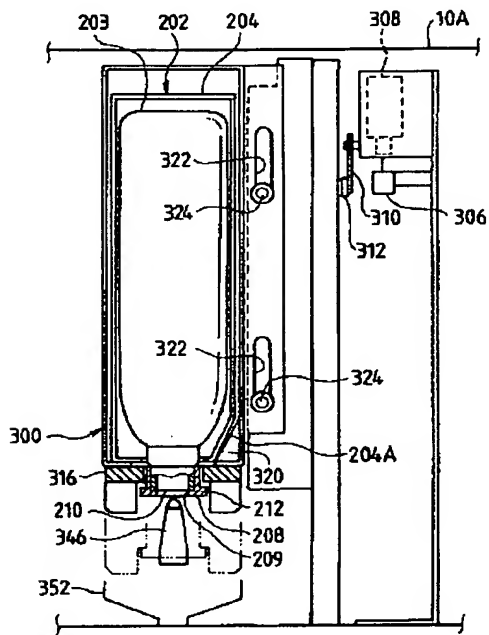


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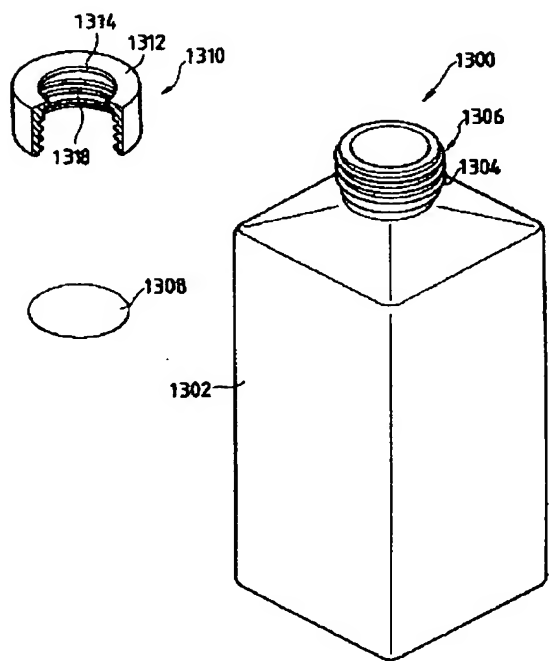


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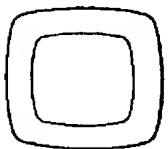
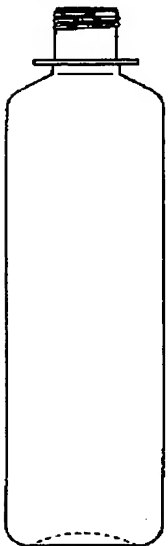
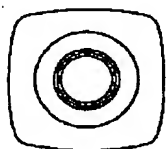




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